

DEPARTMENT OF LABOR

Mine Safety and Health Administration

30 CFR Parts 48, 50, 75

RIN 1219-AB46

Emergency Mine Evacuation

AGENCY: Mine Safety and Health Administration, Labor.

ACTION: Emergency Temporary Standard; Notice of public hearings; Notice of close of comment period.

SUMMARY: The Mine Safety and Health Administration is issuing an emergency temporary standard under section 101(b) of the Federal Mine Safety and Health Act of 1977 in response to the grave danger which miners are exposed to during underground coal mine accidents and subsequent evacuations. The January 2006 mine accidents and fatalities demonstrate the need for the Mine Safety and Health Administration to take additional action that protects miners from the grave danger that they face when they must evacuate a mine after an emergency occurs. This emergency temporary standard includes requirements for immediate accident notification applicable to all underground and surface mines. In addition, this ETS addresses self-contained self-rescuer storage and use; evacuation training; and the installation and maintenance of lifelines in underground coal mines.

DATES: This emergency temporary standard is effective immediately upon publication. The public hearings will be held on April 11, 2006, April 24, 2006, April 26, 2006, and April 28, 2006 at the locations listed in the Public Hearings section below under SUPPLEMENTARY INFORMATION. If individuals or organizations wish to make an oral presentation for the record, the Mine Safety and Health Administration (MSHA) is asking that you submit your request at least 5 days prior to the hearing dates. The comment period will close on May 30, 2006.

ADDRESSES: Comments may be submitted by any of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.
- E-mail: [zzMSHA-Comments@dol.gov](mailto:zzMSHA-Comments@dol.gov). Include the Regulatory Information Number (RIN) for this rulemaking (RIN 1219-AB46 in the subject line of the message.
- Fax: (202) 693-9441. Include RIN 1219-AB46 in the subject line of the fax.
- Mail/Hand Delivery/Courier: Mine Safety and Health Administration, Office of Standards, Regulations, and Variances, 1100 Wilson Blvd., Room 2350, Arlington, Virginia 22209-3939. If hand-delivered in person or by courier, please stop by the 21<sup>st</sup> floor first to check in

with the receptionist before continuing on to the 23<sup>rd</sup> floor.

Instructions: All submissions must reference the MSHA and RIN 1219-AB46.

Docket Access: To access comments electronically, go to <http://www.msha.gov/currentcomments.asp>. All comments received will be posted without change at this web address, including any personal information provided. Paper copies of the comments may also be reviewed at the Office of Standards, Regulations, and Variances, 1100 Wilson Blvd., Room 2350, Arlington, Virginia. MSHA maintains a listserve on the Agency's Web site that enables subscribers to receive e-mail notification when rulemaking documents are published in the Federal Register. To subscribe to the listserve, visit the site at

<http://www.msha.gov/subscriptions/subscribe.aspx>.

Information Collection Requirements: Comments concerning the information collection requirements must be clearly identified as such and sent to both the Office of Management and Budget (OMB) and MSHA as follows:

(1) OMB: All comments must be sent by mail addressed to the Office of Information and Regulatory Affairs, Office of Management and Budget, New Executive Office Building, 725 17th Street, NW, Washington, DC 20503, Attn: Desk

Officer for MSHA; and

(2) MSHA: Comments must be clearly identified by RIN 1219-AB46 as comments on the information collection requirements and transmitted either electronically to [zzMSHA-Comments@dol.gov](mailto:zzMSHA-Comments@dol.gov), by facsimile to (202) 693-9441, or by regular mail, hand delivery, or courier to MSHA, Office of Standards, Regulations, and Variances, 1100 Wilson Blvd., Room 2350, Arlington, Virginia 22209-3939.

FOR FURTHER INFORMATION CONTACT: Robert Stone, Acting Director, Office of Standards, Regulations, and Variances, MSHA, 1100 Wilson Boulevard, Room 2350, Arlington, Virginia 22209-3939. Mr. Stone can be reached at [Stone.Robert@dol.gov](mailto:Stone.Robert@dol.gov) (Internet E-mail), (202) 693-9445 (voice), or (202) 693-9441 (facsimile).

SUPPLEMENTARY INFORMATION:

The outline of this notice is as follows:

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I. Public Hearings

The public hearings will begin at 9 a.m. and end after the last scheduled speaker speaks (in any event not later than 5 p.m.) on the following dates at the locations indicated:

Date	Location	Phone
April 11, 2006	Marriott Town Center	304-345-6500

	200 Lee Street, East Charleston, WV 25301	
April 24, 2006	Sheraton Denver West Hotel 360 Union Boulevard Lakewood, CO 80228	303-987-2000
April 26, 2006	Sheraton Suites 2601 Richmond Road Lexington, KY 40506	859-268-0060
April 28, 2006	MSHA Conference Room 25 <sup>th</sup> Floor 1100 Wilson Boulevard Arlington, VA 22209	202-693-9440

The hearings will begin with an opening statement from MSHA, followed by an opportunity for members of the public to make oral presentations. You do not have to make a written request to speak. Speakers will speak in the order that they sign in. Any unallotted time will be made available for persons making same-day requests. At the discretion of the presiding official, the time allocated to speakers for their presentation may be limited. Speakers and other attendees may also present information to the MSHA panel for inclusion in the rulemaking record.

The hearings will be conducted in an informal manner. The hearing panel may ask questions of speakers. Although formal rules of evidence or cross examination will not apply, the presiding official may exercise discretion to ensure the orderly progress of the hearing and may exclude irrelevant or unduly repetitious material and questions. A verbatim transcript of the proceedings will be prepared

and made a part of the rulemaking record. Copies of the transcript will be available to the public. The transcript will also be available on MSHA's Home Page at <http://www.msha.gov>, under Statutory and Regulatory Information.

MSHA will accept post-hearing written comments and other appropriate data for the record from any interested party, including those not presenting oral statements. Written comments will be included in the rulemaking record.

## II. Introduction

This emergency temporary standard (ETS) is issued in accordance with section 101(b) of the Federal Mine Safety and Health Act of 1977 (Mine Act), 30 U.S.C. 811. The ETS establishes or revises standards in part 48 - Training and retraining of miners; part 50 - Notification, investigation, reports, and records of accidents, injuries, illnesses, employment and coal production in mines; part 75 - subpart D - Ventilation, §§ 75.380 and 75.381; Emergency Evacuations § 75.1502 - Mine emergency evacuation and firefighting program of instruction, and subpart R - Miscellaneous, § 75.1714 - Availability of approved self-rescue devices; instruction in use and location.

In accordance with section 101(b)(3) of the Mine Act, this ETS will also serve as the Agency's proposed rule. The

preamble discusses specific provisions that may be included in the final rule and MSHA solicits comments on these provisions.

### III. Basis for the Emergency Temporary Standard

#### A. Regulatory Authority.

Section 101(b) of the Mine Act provides that:

1) The Secretary shall provide, without regard to the requirements of chapter 5, title 5, United States Code, for an emergency temporary mandatory health or safety standard to take immediate effect upon publication in the Federal Register if [s]he determines (A) that miners are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful, or to other hazards, and (B) that such emergency standard is necessary to protect miners from such danger.

2) A temporary mandatory health or safety standard shall be effective until superseded by a mandatory standard promulgated in accordance with the procedures prescribed in paragraph 3) of this subsection.

3) Upon publication of such standard in the Federal Register, the Secretary shall commence a proceeding in accordance with section 101(a), and the standards as published shall also serve as a proposed rule for the proceeding. The Secretary shall promulgate a mandatory



health or safety standard under this paragraph no later than nine months after publication of the emergency temporary standard as provided in paragraph (2).

An ETS is an extraordinary measure provided by the Mine Act to enable MSHA "to react quickly to grave dangers that threaten miners before those dangers manifest themselves in serious or fatal injuries or illnesses." S. Rept. 181, 95<sup>th</sup> Cong., 1<sup>st</sup> Sess. 23 (1977). Additionally, ". . .once the Secretary has identified a grave danger that threatens miners the Committee expects the Secretary to issue an emergency temporary standard as quickly as possible, not necessarily waiting until [she] can investigate how well that grave danger is being managed or controlled in particular mines." *Senate Report at 24*. An ETS takes effect upon publication in the Federal Register, and is a fully enforceable standard.

To assure the comprehensive protection of miners, the ETS authority applies to all types of grave dangers without qualification. The legislative history of the Mine Act emphasizes that "to exclude any kind of grave danger would contradict the basic purpose of emergency temporary standards - protecting miners from grave dangers." S. Rept. 181, 95<sup>th</sup> Cong., 1<sup>st</sup> Sess., 24 (1977). The ETS authority thus covers dangers arising from exposure to

toxic or physically harmful substances or agents and to "other hazards." It applies to dangers longstanding or novel, to dangers that "result from conditions whose harmful potential has just been discovered" or to which large numbers of miners are "newly exposed." *Id.*

A record of fatalities or serious injuries is not necessary before an ETS can be issued because "[d]isasters, fatalities, and disabilities are the very thing this provision is designed to prevent." *Id.* at 23. At the same time, the legislative history of the Mine Act is clear that an ETS is not limited to new dangers in the mining industry: "That a danger has gone unremedied should not be a bar to issuing an emergency standard. Indeed, if such is the case the need for prompt action is that much more pressing." *Id.* at 24.

When issuing an ETS, MSHA is "not required to prove the existence of grave danger as a matter of record evidence prior to taking action." *Id.* The legislative history expressly recognizes "the need to act quickly where, in the judgment of the Secretary, a grave danger to miners exists." *Id.* The ETS is a critical statutory tool that MSHA can use to take immediate action to prevent the loss of life in the mines. MSHA accordingly has employed an ETS previously to order "hands-on" training for miners

in the use of self-contained self-rescue (SCSR) devices, 52  
FR 24373 (June 30, 1987), and to order certain training and  
mine evacuation procedures for underground coal mines, 67  
FR 76658 (December 12, 2002).

B. Grave Danger.

In response to the recent accidents at the Sago Mine on January 2, 2006 and the Aracoma Alma No. 1 Mine on January 12, 2006, MSHA has determined that new accident notification, safety and training standards are necessary to further protect miners when a mine accident takes place. First, mine operators must immediately notify MSHA within 15 minutes after determining that an accident has occurred so that the coordination of appropriate mine rescue or other emergency response can begin as soon as possible. Such immediate notification will enable help to arrive sooner at the mine, and protect miners from the grave dangers of physical injury and death. Immediate notification of a mine accident to MSHA in emergency situations enables the District Manager to activate the District's emergency response plan. Each Coal Mine Safety and Health District and Metal/Nonmetal Safety and Health District have an emergency response plan which provides for MSHA personnel to perform specific tasks, including the contacting of additional mine rescue teams if needed,

issuing a section 103(k) order at the mine, directing MSHA inspectors to the mine site and initiating liaison with MSHA headquarters in Arlington, Virginia. Mine operators who do not immediately notify MSHA of accidents within the 15 minute time period increase the possibility of serious physical injury or death to miners because assistance may not arrive quickly enough. If the nature of the accident is such that additional mine rescue teams are needed (i.e., to conduct rescue or recovery operations in irrespirable air), MSHA can help in procuring extra mine rescue teams who can provide assistance at the accident site.

Miners working underground when a mine accident occurs must be able to rapidly find lifesaving devices and use those devices to help them prevent injury, evacuate the mine quickly, and save their lives. Access to these devices and techniques for survival (including storage locations of supplemental SCSRs and more frequent training in their use, lifelines, and proper training in mine evacuations) is essential when a miner is underground and a mine fire, explosion, or other type of mine emergency happens. Use of these devices along with proper training will help miners quickly and safely escape from an accident underground, and will help prevent miners from suffering injury and death immediately after the occurrence of a mine

accident. The current lack of available supplemental SCSRs, the lack of training in deploying a supplemental SCSR in irrespirable mine atmospheres, and the lack of lifelines in both required underground coal mine escapeways present a grave danger to miners when a fire, explosion, or other mine emergency occurs.

Miners who do not have access to additional SCSRs for escape and training in their deployment, and who do not have lifelines installed in the mine escapeways face a serious risk of physical injury and death from the hazards listed below.

Underground coal mines are dynamic work environments where the working conditions change rapidly and sometimes without warning. Diligent compliance with safety and health standards and safety conscious work habits provide a substantial measure of protection against the occurrence of mine accidents and emergencies. While MSHA has not yet determined the causes of the Sago and Alma mine accidents, in the high hazard environment where coal miners work, the danger of a fire, explosion, or gas or water inundation is always present. Methane gas or coal dust can be ignited by a spark from electrical equipment, resulting in an explosion. Fire can break out on mining equipment, and can rapidly spread to surrounding coal deposits. Fire may also

start due to friction points becoming hot on or near conveyor belt systems and rollers underground. Caved or mined out areas which contain coal and accumulated gas can be the locations for explosions caused by rock falls, and in some instances, fires are started by spontaneous combustion. Moreover, when active mines are connected into previously mined out areas, there is also the risk of exposure to an oxygen deficient atmosphere that can cause asphyxiation. Finally, when mining near other mined out areas, there can be a risk of water inundation.

MSHA standards are designed to prevent these types of hazards from developing into catastrophic mine accidents. However, the timing and severity of mine accidents are unpredictable. When they occur, immediate notification of MSHA by the mine operator and additional safeguards installed underground will help miners escape safely. MSHA intends that miners not required to respond to a mine emergency should seek to evacuate areas where accidents have occurred and leave the mine as quickly as possible. This intent is consistent with existing paragraph (a) of 30 CFR § 75.1502. These provisions require, first, that the mine operator have procedures for mine emergency evacuations when emergencies present an imminent danger to miners due to fire, explosion, or gas or water inundation

and, second, that miners not required for a mine emergency response must evacuate the mine.

The Secretary has determined that miners are exposed to grave danger when a mine accident occurs and the mine operator does not immediately, that is, within 15 minutes, notify MSHA about the accident. Delay in notification may slow down the arrival of mine rescue assistance and the arrival of MSHA personnel who can provide assistance at the mine site. The Secretary has further determined that miners are exposed to grave danger when a mine accident occurs and miners do not have access to supplemental SCSRs for escape; prior training, including drills, in deploying these supplemental SCSRs in irrespirable atmospheres; and lifelines to guide miners through the designated escapeways to escape from the mine. Without these devices and training, miners are exposed to grave danger because they are not prepared and equipped to take action to safely escape from the mine.

#### IV. Discussion of the Emergency Temporary Standard

##### A. Background.

During the month of January 2006, an explosion at the Sago Mine in Tallmansville, West Virginia resulted in 12 fatalities, and a fire at the conveyor belt drive at the Aracoma Alma Mine No. 1 in Melville, West Virginia resulted

in two fatalities for a total of 14 deaths of miners.

While the MSHA accident investigations are not complete and accident reports have not been written, MSHA believes that the implementation of this ETS will fill a critical need to improve the ability of underground coal miners to evacuate a mine after a mine emergency occurs.

Even though the MSHA accident investigation for the Sago mine is not yet complete, it is known that one crew successfully evacuated the mine. While the members of the second crew that survived the explosion donned SCSRs, they did not successfully evacuate the mine. Similarly, at the Alma No. 1 Mine, the MSHA accident investigation is not yet complete. While all of the twelve miners affected by the fire donned SCSRs, only ten of them successfully escaped. Two of the 12 miners in the area of the fire did not successfully evacuate the mine. It is not yet known what happened to prevent those two miners from evacuating the mine with the others. MSHA believes that the requirements implemented under this ETS would have provided the deceased miners with the tools and training needed for them to have had a better chance of completing a successful evacuation.

B. General Discussion.



1. Part 48 - Training and retraining of miners and Section  
75.1502 - Mine emergency evacuation and firefighting  
program of instruction.

a. Introduction

The best technology, equipment, and emergency supplies are of little use if they are misused or not used at all. Emergencies can incite disorientation and panic. Quality of judgment in how to proceed in a given emergency can be decisive for survival. Training is critical for instilling the discipline, confidence, and skill necessary to successfully escape and survive an emergency. The ETS enhances existing training requirements to help ensure that underground coal miners can effectively respond and "know the drill" to get out of the mine alive.

This ETS modifies various provisions in §§ 48.5, 48.6, 48.8, 48.11, and 75.1502. These modifications provide a more integrated training approach so miners will have the skills to evacuate a mine during an emergency. This enhanced training approach requires more frequent "hands-on" training and actual drills in evacuating the mine. In this ETS, MSHA requires that all persons, before entering an underground mine, have the skills to don and transfer all SCsRs used in that mine. This ETS includes a new provision in §§ 48.5, 48.6, 48.8, and 48.11 to provide

the new miner, newly hired experienced miner, and visitors with "hands-on" training in the transferring of self-rescue devices in addition to the required "hands-on" donning training.

Once a miner starts working in a mine, this ETS requires that the actual "hands-on" training for donning and transferring of self-rescue devices becomes part of the actual evacuation drill required in § 75.1502. Because miners will now receive "hands-on" SCSR training at least four times a year as part of the evacuation drill required under § 75.1502, they will not be required to receive "hands-on" training as part of their annual refresher training under part 48. Also, included in these evacuation drills is the training in the location and use of directional lifelines or equivalent devices, mine emergency scenarios, and stored SCSRs. This ETS requires the mine operator to have the miners walk the escapeways and to physically locate the lifelines and stored SCSRs instead of permitting a simulation drill. Further, the ETS permits the mine emergency evacuation drills in § 75.1502 to satisfy the evacuation practice drill requirements in § 75.383.

Various provisions of §§ 48.5 - Training of new miners; minimum courses of instruction; hours of

instruction; 48.6 - Experienced miner training; 48.8 - Annual refresher training of miners; minimum courses of instruction; hours of instruction; and 48.11 - Hazard training are affected by this ETS.

Since 1980, each miner working in an underground coal mine has been required to have access to an SCSR that provides at least one hour of oxygen for escape from the mine during an emergency. If an emergency arises, many miners may have to escape through long and difficult underground travelways containing irrespirable air.

MSHA has identified problems related to skill degradation in the use of SCSRs in mine emergencies (described below in the discussion of research and studies). This ETS reflects the Agency's belief that more frequent SCSR training is necessary. There is support in the mining community for more frequent training to improve the miner's ability to properly don the devices and retain these vital skills for longer periods of time.

For instance, MSHA sponsored a Mine Emergency Preparedness Conference in January 1995 to provide a forum for members of the mining community to share their insights and to help shape the future of mine emergency preparedness. Representatives from two major labor unions expressed some doubt that, given the existing levels of

training, miners were prepared to escape with the use of SCSRs and that they were already familiar with escape routes. One of the recommendations for further action was that SCSR proficiency could be increased by integrating SCSR training with evacuation and fire drills.

To minimize problems and enhance a coal miner's skill in handling emergency situations, this ETS includes additional training requirements. The new requirements increase the frequency of SCSR training from annually to within every 90 days and include hands-on training in the donning, use, and transfer of self-rescue devices as part of the regular mine emergency drills. These drills also will consist of locating the continuous directional lifelines or equivalent devices and stored SCSRs. Finally, the ETS will allow a mine operator to use the drills required under new paragraph 75.1502(c) to comply with the requirements for drills specified in existing § 75.383. In addition, the ETS permits the mine emergency evacuation drills in § 75.1502 to satisfy evacuation practice drill requirements in § 75.383.

b. Research and Studies.

MSHA has identified a number of research studies that support this ETS. In 1990, researchers from the U.S. Bureau of Mines (now the Office of Mine Safety and Health

Research, National Institute for Occupational Safety and Health (NIOSH)) and the University of Kentucky concluded a series of studies related to SCSR donning proficiency and use in an emergency. They looked at "the procedures taught during the training, the use of any training models; the opportunity to practice donning and using the respirator; and on-the-job training." The researchers dismissed the notion that SCSRs were simple to don. They concluded that "companies should adopt a hands-on training protocol that allows them to integrate SCSR donning practice into other workplace routines such as fire [drills]" (U.S. Bureau of Mines, 1993).

Another U.S. Bureau of Mines study reported that a computer simulation showed that relative survival odds for different mines can vary by as much as 30 percent and that this difference is due to SCSR donning proficiency (Kovac, Vaught, and Brnich, 1990).

MSHA recognizes that with any "nonroutine" task, such as donning and transferring of self-rescue devices, knowledge and skill diminish rapidly. The U.S. Bureau of Mines, in a review of literature related to motor skill degradation (1993 BOM Bulletin 695), found that researchers are aware of this problem.

After conducting the series of studies on donning proficiency, the U.S. Bureau of Mines and University of Kentucky researchers also concluded in 1993 that a better training system for donning SCSRs was needed (Vaught, et al., 1993). The "3+3 donning" method improved donning proficiency, but did not eliminate the problem of skill degradation. In a field test for this donning method, almost all of the persons who went through the program were able to successfully complete the donning procedures. The "3+3 donning" method is a method of learning how to properly don an SCSR and was developed by MSHA and NIOSH. The first "3" steps of the method specifically train the user to begin the donning routine by concentrating on the breathing zone. Those steps include activating the oxygen supply, inserting the mouthpiece and affixing the noseclips. The second "3" steps involve adjustments to the unit's goggles and neck strap, and the miner's hardhat.

These studies further determined the effectiveness of the "3+3" donning procedures and support a need for more frequent training, such as every 90 days. In this study, 88 miners were trained in the "3+3" method until they could proficiently don the SCSR. A week after receiving the training, 32 of these miners were randomly selected to test their SCSR donning skills. In this test, most of the

miners could still put on an SCSR proficiently. After 90 days, another sample group was chosen for testing. In 90 days the proficiency rate dropped from 80 percent to about 30 percent.

The U.S. Department of Labor Office of Inspector General (OIG) recommended that MSHA review the frequency and type of training required to ensure that miners will be able to effectively use SCSRs in an emergency (OIG, 1999). Based on skills degradation research supporting additional self-rescue device training, the recommendation of the Inspector General, and past experience where improved training might have made a difference in an escape, MSHA is increasing the frequency of training on SCSRs to within every 90 days. The more frequent training, by reinforcing skills, should substantially reduce motor-skill degradation.

NIOSH has recently provided a guidance document, Informational Circular 9481 (Fire Response Preparedness for Underground Mines) to the mining industry identifying training techniques that increase skill levels of miners to deal with underground mine fires. An important element in developing skills necessary to react to emergencies is "hands-on" training (NIOSH, 2005). This report further identified fire drills required at 90-day intervals as an

important part of the mine emergency plan that helps promote confidence in miners by showing them how to handle an emergency situation. Another benefit of the drills the report identified is a test of how effective the mine emergency plan works.

c. Mine Emergency Incidents.

In addition to the research, several past incidents have highlighted problems with self-rescue device training in mine emergencies that support the need for an integrated training approach for emergencies. A particularly noteworthy example occurred in 1984 when 27 miners lost their lives in a fire at the Wilberg mine in Orangeville, Utah. The final MSHA accident investigation report states that, "No apparent attempt was made by the miners in 5th right panel to obtain a SCSR after the first notification of the fire and prior to smoke arriving on the section." Also, after retrieving their SCSR devices, some of the miners carried them for a distance before donning them. Had the miners immediately gone to the stored SCSRs when notified of the fire and donned the SCSRs, they would have greatly increased their ability to escape from the fire and exit the mine.

The MSHA investigators reviewed each miner's activities after they were warned of the fire. The report



found "the actions of the victims in obtaining and using self-rescue devices indicate many were not sufficiently instructed to be considered adequately trained in the use of the self-rescue devices." Each of the 27 miners had an FSR (filter self-rescuer). Four miners wearing FSRs walked past stored SCSRs in their attempt to escape. They died from lack of oxygen. Three other miners attempted escape with only an FSR and were overcome by carbon monoxide. Six miners first attempted to use their FSRs and then switched to their SCSRs. Four apparently died due to improper donning, removing the mouthpiece, or switching from the FSR to the SCSR. One miner used three SCSRs and almost made it to fresh air; however, he removed his SCSR prematurely. The rest of the deceased miners had not attempted to use either the FSRs or SCSRs (Huntley, et al., 1984). MSHA believes that better training, along with a better location of stored SCSRs could have resulted in a different outcome. Improper training of donning and transferring from one device to another, as well as the use of FSRs in such an environment, contributed to the severity of the disaster.

Based on the findings at Wilberg, MSHA issued an ETS in June 1987. The 1987 ETS required that all training in the use of SCSRs include complete donning procedures. This training was required for any person going underground for

the first time and as part of regularly scheduled annual refresher training required by part 48.

In another incident, during the escape from a fire at the Mathies Mine in 1990, seven out of 18 miners removed their SCSR mouthpieces in order to talk or get more comfortable during the escape. Only seven miners donned their SCSRs at the first sign of smoke. One miner took his nose clip off during the escape. Another miner claimed that he could not get enough oxygen from his SCSR (Kovac, Kravitz, et al., 1991). If any of these persons had encountered a toxic atmosphere at the point when they removed their protection, they might have died.

Also, in November 1998, during the escape from the Willow Creek Mine Fire, the two miners that used SCSRs had difficulty starting the oxygen flow of their devices and removed the mouthpieces prior to reaching the main fresh airway. If the carbon monoxide in the mine atmosphere had been higher, the miners that removed their mouthpieces would likely have died. In situations where miners remove the mouthpiece prematurely, additional training will increase knowledge for continuing to use the self-rescue device until escaping into fresh air (Kravitz, 1991).

The recent Sago and Alma Mine accidents convince MSHA that the general situation in underground coal mines is

such that additional training must be immediately instituted. In any mine accident, if the miners wait to see or smell smoke before donning their SCSRs it may be too late. In the Sago accident, still under investigation, a miner or miners may not have donned an SCSR because, in the absence of smoke, they may have believed the air was safe to breathe. Training must successfully convey not only how, but also when self-rescue devices must be used in emergency situations. Also, the Sago tragedy points to the necessity of increased availability of SCSRs so that miners can survive in toxic air for more than one hour. As self-rescue devices are usually good for one hour, this means that miners must have the skill to transfer from one self-rescue device to another.

Based on incidents during these recent mine emergencies and MSHA's experience with other self-rescue device training related problems, additional training in donning, using, and transferring self-rescue devices is needed to protect miners. MSHA believes that more frequent training in donning and using self-rescue devices is needed to adequately protect miners. The new and expanded training requirements in this ETS increase the donning frequency and emphasize the proper use of SCSRs.

The ETS also enhances the requirements for evacuation drills by requiring these drills not be simulations, but must involve physically traveling from the working section, or the miner's work station, to the surface or the exits at the bottom of the shaft or slope. These drills include miners donning and transferring self-rescue devices. MSHA requests comment about whether miners should be required to walk the escapeway rather than use mechanized transportation during the drills. The drills are to take place at intervals of not more than 90 days. This more frequent retraining represents a distinct improvement over current requirements for annual training.

## 2. Immediate Notification.

This ETS modifies § 50.10 - Immediate notification. Existing § 50.10 requires that, if an accident (as defined in paragraph (h) of § 50.2) occurs, the operator must immediately contact MSHA. While the basic notification requirement in existing § 50.10 is straightforward, precisely what constitutes "immediately contact" is not addressed. The Federal Mine Safety and Health Review Commission (Commission) has observed that "immediately" is a term of common usage but that the application of the current requirement must be evaluated on a case-by-case

basis. The ETS defines "immediately" to mean at once without delay and within 15 minutes.

MSHA was not notified of the Sago Mine accident until approximately two hours after the occurrence of the accident. While that delay is under investigation and it is unclear whether the delay played any role in the fatalities due to the high levels of methane and carbon monoxide which prevented immediate entry by rescuers, the lack of timely notification of an accident can play a lethal role resulting in grave consequences for miners caught underground in a mine emergency. In light of the Sago accident, MSHA reviewed the violation and case history for § 50.10. There have been a number of cases where operators failed to immediately contact MSHA, were cited and ordered to pay a penalty after contesting the citations before the Commission.

Operator notification to MSHA in the event of a mine accident is vital to enable the Agency to effectively respond in emergency or potentially life threatening situations. Notification alerts the Agency so that accident investigations and assistance to trapped or injured miners can be initiated. MSHA is particularly concerned that failure to immediately notify the Agency of mine emergencies can cost lives by delaying rescue

services. In defining "immediately," the ETS emphasizes the urgency of notification and makes it clear to mine operators what is expected of them.

### 3. Escapeways in Underground Coal Mines.

MSHA has included new provisions, new paragraph (d) (7) under § 75.380 and new paragraph (c) (5) under § 75.381, that require the use of directional lifelines in both the primary and alternate escapeways. MSHA believes that this new rule provides greater protection than any existing state requirements. A directional lifeline is most likely a rope made of durable material, though it could also be an equivalent device, such as a pipe or handrail; marked with a reflective material every 25 feet; located in such a manner for miners to use effectively to escape; and have directional indicators, signifying the route of escape, placed at intervals not exceeding 100 feet. The 1994 Final Report of the Department of Labor's Advisory Committee on the Use of Air in the Belt Entry to Ventilate the Production (Face) Areas of Underground Coal Mines and Related Provisions (Advisory Committee) recommended the installation and maintenance of lifelines in all underground coal mines, whether belt air was in use at the mine or not.

The Advisory Committee recommendation specified that lifelines had to clearly designate the route of escape. Discussion in the Advisory Committee's report suggested the use of directional cones to increase the effectiveness of lifelines. MSHA solicited information from the public concerning the use and maintainability of lifelines in the belt air proposed rule (64 FR 17480). Many commenters, including NIOSH, commented that lifelines can improve the likelihood of escape from mine fires and suggested that MSHA consider an additional requirement for the installation of lifelines in all escapeways, not just alternate escapeways in return air courses at mines using belt air. These commenters maintained that, due to the lack of visibility, lifelines were necessary to escape a smoke-filled atmosphere.

Overall, the commenters to the belt air rule stated that lifelines could be useful in helping miners escape to the surface of the mine when smoke-filled atmospheres are present. After further review of the petitions for modifications previously granted to allow the use of belt air, reviewing the comments on lifelines, and researching state regulations regarding lifelines, MSHA agreed with the commenters that lifelines can aid in escape during emergency situations, especially in instances of reduced

visibility due to smoke. In heavy smoke, a miner can easily become disoriented and cannot determine the proper direction for escape. A directional lifeline gives the miner added safety by directing the miner through the smoke-filled entries to safety. As a result of the "belt air" rulemaking, the Agency included paragraph (n) of § 75.380 and required the use of lifelines in alternate escapeways located in return air courses in mines using belt air (69 FR 17480).

Three states, Kentucky, West Virginia, and Virginia have required lifelines in underground coal mines (Ky.Rev.Stat.Ann. ' 352.135; W.Va. Code § 22A-2-60, paragraph (b); Va. Code § 45.1-161.166, paragraph (b)) for many years. These state statutes require the use of directional durable lifeline cords; either in the primary or alternate escapeway.

#### 4. The Need for Additional Self-Contained Self Rescuers.

MSHA has included new § 75.1714-4 requiring the mine operator to provide at least one additional self-contained self rescuer ("SCSR") that provides protection for a period of 1 hour or longer to cover the maximum number of persons in an underground coal mine. Since 1980, each person working in an underground coal mine has been required to have immediate access to an SCSR. SCSRs are devices which



aid in the escape from mine fires, explosions, and other incidents where an irrespirable mine atmosphere is present. An SCSR is a closed-circuit breathing device that contains an independent supply of oxygen. Because SCSRs function in a closed circuit, they enable persons to breathe clean air in the presence of hazardous or life-threatening contaminants in the mine atmosphere.

Contaminated air in underground coal mines is usually the result of an explosion or mine fire which is an ever-present threat in that inherently dangerous environment. For example, in January 2006, the explosion at the Sago Mine and the mine fire at the Aracoma Alma No. 1 Mine filled the atmosphere at both mines with smoke and other contaminants. In addition to smoke, the contaminated air at both of these mines contained carbon monoxide, methane, carbon dioxide, and other products of combustion. This contaminated air may have also contained chlorine; hydrogen cyanide; isocyanates; oxides of nitrogen; and sulfur. Such contaminants are more complex and potentially more harmful than the ordinary combustion products of coal fires. The contaminants are the result of a wide variety of materials that are usually present in the mine, such as rubber conveyor belts, plastics, polyurethane, insulation, combustible liquids including hydraulic fuels and

lubricants, and cable coverings. Depending on the nature of the material exposed to the fire or heat, very complex and toxic decomposition products can result. The combination of contaminants can be more hazardous than the individual contaminants alone.

MSHA's records show that 56 underground coal mine fires, with a duration greater than 30 minutes, and five explosions have been reported to MSHA during the ten-year period from February 1, 1996 to February 1, 2006. During that same period explosions resulted in the deaths of 31 coal miners, and fires resulted in two deaths. Although mine fires that last less than 30 minutes do not have to be reported to MSHA, the Agency has anecdotal reports that such fires commonly occur. Mine fires, ignitions, and explosions, regardless of duration, can present a grave potential hazard to underground coal miners due to the thick smoke, toxic atmosphere, and limited visibility that often results from these events.

In addition to reportable coal mine fires, operators have reported numerous unplanned ignitions of methane. During the ten-year period from February 1, 1996 to February 1, 2006, the coal mining industry reported approximately 650 ignitions. Each of these ignitions had the potential to result in a mine fire or explosion which

would release hazardous or life threatening contaminants into the mine atmosphere.

Potentially explosive methane is naturally present in underground coal mines and can ignite when an ignition source is present. Combustible dusts, including material brought into a mine, can smolder and eventually catch fire when near a source of heat. There are numerous ignition sources present underground. For example, belt lines, trolley wires, roof falls, diesel powered equipment, battery operated equipment, charging stations, and other forms of electrical equipment are prevalent underground and can be the source of an ignition. In addition, coal can undergo spontaneous combustion and burn.

In 1998, MSHA inspectors conducted a self-rescue device survey at each underground coal mine to determine the type and quantity of self-rescue device protection used in the coal mining industry. As part of this survey, the inspectors collected information about escape conditions, such as the height of the escapeways and the distance from the working sections to the surface or designated safe location. Based on the mine height and distance data obtained from this survey, MSHA concluded that there were approximately 234 coal mines where it would take miners more than one hour to reach the surface. In addition, in

76 of the 234 coal mines, miners would require more than two hours of travel time to reach the surface. Existing § 75.1714 only requires that each miner and visitor to an underground coal mine be supplied with one SCSR that is adequate to provide protection from contaminated air for one hour or longer. The results of MSHA's 1998 survey show that there is a need to have SCSR devices, in addition to the single SCSR device required by existing § 75.1714, stored in the mine so that all miners would have an air supply sufficient to safely exit the mine in the event of an accident or emergency.

While some miners were able to successfully don and escape the mine using their SCSR after the explosion at the Sago Mine and the mine fire at the Aracoma Alma No. 1, other miners equipped with only one SCSR did not safely evacuate the mines, which were filled with thick, smoky, contaminated air. An explosion or mine fire creates a thick, smoke-filled atmosphere in the mine which hampers a miner's ability to quickly evacuate because miners may panic or become disoriented. If an accident occurs or an emergency arises, such as the recent Sago mine explosion or the Alma No. 1 Mine fire, miners may have to escape through long and difficult underground travelways containing irrespirable air. During an accident or emergency

requiring evacuation through a hazardous environment, SCSRs are the last line of defense for any miner in the mine. If an adequate number of SCSRs is not readily available, the chance of survival during an emergency or accident is greatly diminished.

To further assist all miners to evacuate the mine safely, in addition to the SCSR that is now required by the existing standards, this new section requires the mine operator to provide at least one additional SCSR for each person who is underground. The additional SCSR will provide protection for a period of one hour or longer to cover the maximum number of miners in the mine. Thus, each miner or person underground will have the SCSR that is traditionally carried with him or her and an additional SCSR device readily accessible. The requirement for additional SCSRs will greatly enhance the ability of all miners to safely exit from the mine in an accident or emergency. Further, all miners not required to respond to the mine emergency will be encouraged to evacuate knowing that an additional supply of oxygen is available. This result is consistent with MSHA's intent that miners not needed to respond to the mine emergency, evacuate the mine as quickly as possible. For those mines where the one required SCSR plus one additional required SCSR are not adequate to provide enough

oxygen to all persons for a safe evacuation, the mine operator will provide additional SCSRs in the primary and alternate escapeways under an "outby SCSR storage plan."

#### 5. Timeframe for Implementation.

This ETS is effective immediately. However, various new provisions will require that the mine operator develop new plans or purchase new equipment. This section of the preamble explains the implementation of this ETS.

A new paragraph (p) is added to § 48.3 requiring the mine operator to submit a revised training plan under part 48 to the appropriate District Manager for approval no later than [Insert date 30 days from date of publication in the FEDERAL REGISTER]. The operator must train in accordance with the revised training plan within 2 weeks of plan approval. This provision is consistent with the new paragraph 75.1502(d) requiring a revised program of instruction.

The underground coal operator must submit to the District Manager for approval a revised training plan for part 48 and a revised program of instruction for § 75.1502 to incorporate the ETS-required changes by [Insert date 30 days from date of publication in the FEDERAL REGISTER]. Although equipment required by paragraphs 75.380(d)(7) and 75.381(c)(5), and § 75.1714-4, may not be available

immediately, any new or revised training plan and program must address training for this equipment.

MSHA will accept as good faith evidence of compliance, purchase orders or contracts to buy lifelines or SCSRs. MSHA will work with lifeline and SCSR manufacturers to facilitate implementation of these ETS requirements and encourage manufacturers to provide realistic delivery dates. MSHA expects that mine operators will have purchase orders or contracts completed within 30 days of the effective date of this ETS. Installation of such equipment must be completed as soon as possible after delivery.

No later than 2 weeks after receiving approval for the part 48 training plan modification, the operator must train in accordance with the newly revised plan.—

The ETS adds new paragraph (d) to § 75.1502 to require each underground coal operator, subject to the Emergency Temporary Standard effective [Insert date of publication in the FEDERAL REGISTER], to submit for approval a revised program of instruction to the appropriate District Manager no later than [Insert date 30 days from date of publication in the FEDERAL REGISTER]. Within 2 weeks of program approval the operator must train in accordance with the revised program. This change is consistent with the requirement for submitting a revised plan under new

paragraph (p) of § 48.3.

MSHA acknowledges that there may be a delay in the ability of mine operators to train miners on transferring from one SCSR to another SCSR since SCSR training units may not be available. Otherwise, MSHA expects mine operators to comply with all of the training requirements. For instance, SCSR donning can be included with the mine emergency drills and the drills themselves can include traveling the primary or alternate escapeway, from the working section or the miner's work station, to the surface or the exits at the bottom of the shaft or slope. Also, miners can be taught the correct actions to take based on different mine emergency scenarios which would require the miner to immediately don a self-rescue device.

#### C. Section-by-Section Discussion.

##### 1. PART 48 - TRAINING AND RETRAINING OF MINERS.

The ETS makes a number of non-substantive organizational changes to clarify existing provisions or to accommodate new or moved provisions. These non-substantive changes retain the substantive requirements in existing standards. Non-substantive changes to 30 CFR part 48 include:

Organizational changes to existing paragraphs 48.5(b)(2), 48.6(b)(12), 48.8(b)(8), and 48.11(a)(4) by



adding a separate listing for training in donning (paragraph i) and new training in transferring self-rescue devices (paragraph ii).

Adding the term "hands-on" to the detailed description of Self-Rescue and Respiratory Devices training in existing §§ 48.5, 48.6, and 48.11, and paragraph 48.8(b)(8). This further clarifies the SCSR training requirements and is consistent with the new provision on transferring from self-rescue device to self-rescue device.

a. Section 48.3 - Training plans; time of submission; where filed; information required; time for approval; method for disapproval; commencement of training; approval of instructors.

A conforming change is made to existing paragraph (a) to include the exception of the new paragraph (p). The language now reads, "[e]xcept as provided in paragraphs (o) and (p) of this section, each operator of an underground mine shall have an MSHA approved plan containing programs for training new miners, training experienced miners, training miners for new tasks, annual refresher training, and hazard training for miners as follows:".

A new paragraph (p) is added to this section requiring the mine operator to submit a revised training plan under this part 48. This revised plan shall be submitted to the

appropriate District Manager for approval no later than [Insert date 30 days from date of publication in the FEDERAL REGISTER]. Within 2 weeks of plan approval, the operator must train miners in the new training plan requirements. This provision is consistent with the new provision for a revised program of instruction for paragraph 75.1502(d) with a revised training plan.

b. Section 48.5 - Training of new miners; minimum courses of instruction; hours of instruction and Section 48.6 - Experienced miner training.

This ETS makes identical changes to § 48.5 - Training of new miners; minimum courses of instruction; hours of instruction, and § 48.6 - Experienced miner training. These changes are necessary to conform and align the training requirements in 30 CFR part 48 with the emergency evacuation and related requirements being added to 30 CFR part 75. These regulatory changes do not reduce protection for miners.

1. Self-Rescue and Respiratory Devices: Paragraphs 48.5(b)(2) and 48.6(b)(12).

Specifically, MSHA is amending paragraphs 48.5(b)(2) and 48.6(b)(12) by including language that the complete donning of self-rescue devices must include a requirement for actual "hands-on" practice in transferring from self-

rescue device to self-rescue device. This change parallels changes in 30 CFR part 75 requiring all persons in an underground coal mine to have at least one additional self-rescue device available for escape during a mine emergency. It also ensures that new or newly employed experienced coal miners have the skill to not only use a self-rescue device, but also to transfer from self-rescue device to self-rescue device, before they begin work underground. They may need this skill if a mine emergency occurs before they are able to participate in a mine emergency evacuation drill. This added requirement enhances protection for miners. This training is critical and it is important that the training models used for the donning and transferring exercises are the same type(s) and model(s) of self-rescue devices in use at that mine.

2. Mine map; escapeways; emergency evacuation; barricading: Paragraphs 48.5(b)(5) and 48.6(b)(5).

This ETS also amends paragraphs 48.5(b)(5) and 48.6(b)(5) by adding a reference to the requirements for emergency evacuation plans in existing paragraph 75.1502(a) for underground coal mines and § 57.11053 for underground metal and nonmetal mines. The existing requirements for the initial training of miners requires a review of the mine map, escapeway systems, and the mine emergency

evacuation plans in effect at the mine. Referencing the appropriate standards allows MSHA to incorporate the added and expanded ETS requirements in existing paragraph 75.1502(a), including scenarios and actual practice, into the initial training of coal miners without affecting the training program for metal and nonmetal miners. This added requirement improves protection for miners by requiring scenarios to be developed and used in the actual quarterly drills. This will give miners better information to prepare them to successfully evacuate the mine. The requirements in this ETS only apply to underground coal mines because only underground coal mines are required to provide all persons with SCSR devices.

3. Participation in evacuation drills: New paragraphs 48.5(e) and 48.6(f).

This ETS also amends § 48.5 and § 48.6 by adding new identical paragraphs 48.5(e) and 48.6(f) requiring new or newly employed experienced coal miners to participate in the next drill as required in existing paragraph 75.383(b) or newly amended paragraph 75.1502(c), whichever occurs first. This will ensure that newly hired miners will be included in the next drill at the mine. MSHA believes that regular and frequent participation in the emergency evacuation drills will reinforce the miners' knowledge and

skill for responding appropriately to a mine emergency and lessen the disorientation and panic that may cause the miner to make wrong decisions.

MSHA chooses to require the new or experienced underground coal miner's participation in the evacuation drills under the requirements in 30 CFR part 75 rather than as part of the initial training under 30 CFR part 48. Initial miner training is reinforced by the experience of traveling the escapeways to the surface or bottom of a shaft or slope, and physically locating directional lifelines or equivalent devices and stored SCSRs. This added requirement increases protection for miners because the frequency of drills is increased from one time per year under this part to four times per year under § 75.1502 and ensures that miners receive training at the next underground drill.

c. Section 48.8 - Annual Refresher Training of miners; minimum courses of instruction; hours of instruction.

Underground coal miners will receive refresher training on their SCSR skills at least every 90 days because this ETS adds the requirement for "hands-on" SCSR training during the drills required by § 75.1502. For this reason, the requirement for training in donning self-rescue devices under existing paragraph 48.8(b)(8) is being

modified to include transferring from one self-rescue device to another device for underground coal miners. New language in this section allows underground coal miners to satisfy the requirements of new paragraphs 48.8(b)(8)(i) and (ii) by participating in the emergency evacuation drills required by § 75.1502. This added requirement enhances protection for miners because it increases the frequency of training.

d. Section 48.11 - Hazard Training.

This ETS adds a new requirement for "hands-on" training in transferring from self-rescue device to self-rescue device to the existing requirement for donning a self-rescue device in paragraph (a)(4) of existing § 48.11. It also identifies the donning requirement as paragraph (a)(4)(i) and the transfer requirement as paragraph (a)(4)(ii). This additional requirement reinforces MSHA's belief that all miners and visitors need to know how to transfer from one self-rescue device to another. This added requirement enhances protection for miners or visitors. The ETS does not change the existing requirement that all miners and visitors receive training in the donning of all types of SCSRs.

2. PART 50 - NOTIFICATION, INVESTIGATION, REPORTS, AND  
RECORDS OF ACCIDENTS, INJURIES, ILLNESSES, EMPLOYMENT, AND  
COAL PRODUCTION IN MINES.

Section 50.10 - Immediate notification.

The ETS incorporates a definitive standard into § 50.10 of what is meant by "immediately contact." The ETS provides that the contact is to be done "at once without delay." These terms reflect the ordinary meaning of "immediately" and are taken from definitions found in Webster's Third New International Dictionary (Unabridged) (1986 ed.) and the Random House Dictionary of the English Language (Unabridged) (2d ed. 1987). In discussing the meaning of "immediately," the Commission has cited these dictionary sources. *See, e.g., Consolidation Coal Co., 11 FMSHRC 14 1935 at 1938 (October 31, 1989).* The ETS further specifies that the notification must be done "within 15 minutes." This sets a maximum time within which the contact must be made. MSHA believes that 15 minutes is a reasonable time to access a telephone or other means of communication and place a contact call to the Agency. Fifteen minutes or a quarter of an hour is a concept that is easily remembered even in times of stress. To comply with the ETS then, an operator must act right

away as circumstances permit and such action must take place within 15 minutes.

The 15 minute time period begins when the mine operator determines that an accident has occurred. MSHA is aware, however, that there are occasions, especially immediately after an explosion or fire, when mine communications may be lost and it may take some time to re-establish contact and communicate that an accident has occurred. The ETS recognizes that such circumstances may occur by providing that when communications are lost due to emergency or other unexpected event, the operator must notify MSHA at once without delay and within 15 minutes of having access to a telephone or other means of communication. It is expected that the operator will be diligent in attaining access to a telephone or other communication means under such circumstances.

Under the MSHA system for receiving notification, a call to the MSHA district office having jurisdiction over the mine may be forwarded to an answering service that gives the mine operator other numbers to call to personally reach district officials. Once an official is reached, the agency is notified. Alternatively, the MSHA Headquarters 800 toll-free line has a 24 hour, 7 day per week answering



protocol so that once the call is placed, the agency is notified.

MSHA reviewed contest cases concerning § 50.10, and the Agency's enforcement experience, to determine why some mine operators may not immediately notify the Agency. One reason is that the notification is made only after being processed through a chain of command at the mine. Another reason is a tendency to try to take care of an incident before it becomes a reportable accident. Yet another reason may be grounded in the very human propensity to focus exclusively on evacuation and mine emergency response in the wake of a mine emergency. Taking too much time to determine whether, in fact, an accident occurred which would trigger notification to MSHA, is another reason. Yet another reason is ignorance of the law. The ETS is intended to impress upon mine operators that notification is urgent and must be made a priority. Therefore, the ETS enhances protection to miners, and certainly does not reduce that protection.

The ETS does not change the basic interpretation of § 50.10. By the terms of the provision, an operator is required to notify MSHA only after determining whether an "accident" as defined in existing paragraph 50.2(h) has occurred. This affords operators a reasonable opportunity

to investigate an event prior to notifying MSHA. That is, mine operators may make reasonable investigative efforts to expeditiously reach a determination. In that way an operator is responsible for immediately notifying MSHA about those accidents that the operator knows or should know about. Thus § 50.10, in the words of the Commission, "[s]hould be carried out in good faith and without delay, and in light of the regulation's command of prompt, vigorous action." It is important that notification be sufficient so that the Agency is actually put on notice as to what happened. MSHA invites comment on whether § 50.10 should be further amended to require that the notification specify the type of accident per existing paragraph 50.2(h) and pertinent details.

As discussed above, immediate notification hinges on the occurrence of an "accident." Existing paragraph (h)(6) of § 50.2 defines "accident" to include "an unplanned mine fire not extinguished within 30 minutes of discovery." MSHA believes there are situations in the mines that involve more than one fire or a smoldering condition at a particular place. Each episode of flame or smolder may have been extinguished within 30 minutes.

The Agency is concerned that such events may represent a serious or potentially serious hazard, and

should be reported as an "accident" and subject to the immediate notification requirement of § 50.10. It was reported in the press that there had been a fire previously at the same spot along the beltline at the Aracoma Alma No. 1 Mine and that the belt had been "running hot for days" before the fire that caused the fatalities on January 23, 2006. MSHA is considering revising the definition under existing paragraph (h)(6) of § 50.2 in the final rule after considering comments submitted about this definition. MSHA invites comments on whether a revision, for example, should cover all unplanned underground mine fires, or all unplanned underground fires of particular types, duration or occurrences at particular locales. MSHA solicits comments on whether and how the definition of "accident" in paragraph 50.2(h)(6) should be revised to accurately take into account the fire hazards that miners face.

### 3. PART 75 - MANDATORY SAFETY STANDARDS - UNDERGROUND COAL MINES.

#### a. Section 75.350 - Belt air course ventilation.

A conforming change is made to existing paragraph (b) of § 75.350 by removing paragraph (b)(7) since existing paragraph 75.380(n) is also being removed. This change enhances safety protection for miners since lifelines will now be required not only in the return entries when used as

alternate escapeways; but in all primary and alternate escapeways.

b. Section 75.380 - Escapeways, bituminous and lignite mines and Section 75.381 - Escapeways; anthracite mines.

The ETS includes new provisions, paragraph (d)(7) of § 75.380 and paragraph (c)(5) of § 75.381, that require the use of directional lifelines in both the primary and alternate escapeways for underground bituminous, lignite, and anthracite coal mines. These lifelines will clearly designate the escape route that miners should take to evacuate the mine quickly when an accident occurs. These requirements replace existing paragraph 75.380(n) (which is removed for bituminous and lignite mines) and include a new requirement under § 75.381 for anthracite mines. Removed paragraph 75.380(n) only applied to alternate escapeways located in return air courses in mines using belt air under the "belt air rule" (69 FR 17480). This ETS enhances protection to miners because it broadens the requirements for lifelines to both the primary and alternate escapeways in every underground coal mine.

New paragraphs 75.380(d)(7) and 75.381(c)(5) require that each escapeway be provided with a continuous directional lifeline or equivalent device and further require that it be installed and maintained throughout the

entire length of the escapeway as defined in existing paragraph 75.380(b)(1) or 75.381(b) as applicable; be made of durable material; be marked with reflective material every 25 feet; located in such a manner for miners to use effectively to escape; be equipped with directional indicators showing the route of escape; and be attached to and mark the location of stored SCSRs.

Existing paragraphs 75.380(d)(2) and 75.381(c)(2) provide that each escapeway shall be clearly marked to show the route [and direction] of travel to the surface. While such markings are beneficial, they are not always effective, particularly under some adverse conditions such as the presence of thick smoke which significantly reduces visibility. MSHA records also indicate that mine operators are frequently cited for violating existing paragraphs 75.380(d)(2) and 75.381(c)(2). Failure to provide or maintain these markings increases the probability of miners becoming disoriented during an attempt to evacuate a mine under adverse conditions. When directional lifelines are installed in the escapeways, miners will not be solely dependent upon markings in the escapeway to show the route and direction of travel to the surface.

The ETS provisions relating to lifelines are the same for both underground bituminous and lignite mines

(§ 75.380) and anthracite mines (§ 75.381). Each provision will be discussed as it applies to both §§ 75.380 and 75.381.

The first provision, paragraph (d)(7)(i) of § 75.380 and paragraph (c)(5)(i) of § 75.381, requires that lifelines be installed and maintained in both escapeways leading from the working sections or areas where mechanized mining equipment is being installed or removed. The lifelines must be continuous to the surface escape drift opening, continuous to the escape shaft or slope facilities to the surface, or continuous from each working section to the surface, as applicable. This provision is based on language that describes escapeways in existing paragraphs 75.380(b)(1) and 75.381(b). Requiring lifelines in both escapeways will increase the probability of escape in the event that either is impassable or unreachable.

The second provision, paragraph (d)(7)(ii) of § 75.380 and paragraph (c)(5)(ii) of § 75.381, requires that lifelines be made of a durable material so that they are resistant to damage. This provision is based on language in removed paragraph (n)(2) of § 75.380. Lifelines must be constructed of durable (strong) materials and must survive normal mining conditions (e.g., atmospheric conditions such as humidity). They must be

available in an emergency when miners need them to evacuate the mine. In addition, lifelines must also be sturdy enough to withstand intense physical use during an evacuation.

The third provision, paragraph (d)(7)(iii) of § 75.380 and paragraph (c)(5)(iii) of § 75.381, requires that the lifelines be marked with a reflective material every 25 feet, so that miners can locate the lifeline using their cap lamps in low-visibility conditions and when smoke is present. This provision is based on language that describes lifelines in removed paragraph (n)(3) of § 75.380.

The fourth provision, paragraph (d)(7)(iv) of § 75.380 and paragraph (c)(5)(iv) of § 75.381, provides that lifelines be positioned in such manner that miners can use them effectively to escape. This provision is based on language that describes lifelines in removed paragraph (n)(4) of § 75.380. The proper positioning of the lifeline regarding height, accessibility, and location as determined by the mining conditions improves the ability of miners to effectively use lifelines to escape during emergency situations.

The fifth provision, paragraph (d)(7)(v) of § 75.380 and paragraph (c)(5)(v) of § 75.381, provides that

lifelines contain directional indicators, signifying the route of escape, placed at intervals not to exceed 100 feet. This provision is based on language that describes lifelines in removed paragraph (n)(5) of § 75.380. These directional indicators are physical objects, such as, but not limited to, cones, that provide tactile feedback to a miner attempting to escape a dark, smoke-filled environment. During escape when visibility is low, the directional indicators will enhance the ability of miners to escape by quickly indicating the proper direction of travel.

Currently, some mines place prefabricated directional lifelines in escapeways, using cones to show the direction of escape. NIOSH publications discuss the design of a particular lifeline construction (75-foot cone spacing) and NIOSH recommends installation of double-cones at obstructions to alert miners of personnel doors, overcasts, belt crossings, etc. However, NIOSH did not recommend an interval for directional cone spacing. MSHA experience in training miners at the Mine Simulation Laboratory in Beaver, West Virginia, indicates that the directional cone spacing interval needs to be variable, due to variation in conditions found in return entries, including overcasts and undercasts and turns. The new standard requires the



interval spacing will never exceed 100 feet, but may be shorter depending upon entry conditions, as determined by the mine operator as mine conditions warrant.

The sixth provision, paragraph (d)(7)(vi) of § 75.380 and paragraph (c)(5)(vi) of § 75.381 requires that the lifeline be securely attached to, and marked to show the location of, all SCSR storage locations in the escapeways. This provision is new and directs escaping miners to SCSR storage locations that are required by the new provision, paragraph 75.1714-4(c). Miners escaping a mine under adverse environmental conditions may need to access additional SCSRs in order to successfully evacuate the mine. This requirement, and new paragraph 75.1714-4(e) that requires a reflective sign to be posted, will enable persons to quickly locate additional SCSRs.

MSHA also requests comments about whether miners should have the ability to tether themselves together during escapes through smoke-filled environments. Mine rescue teams currently use tethers (lifelines) to attach to each rescue team member to keep the group together when they enter smoke filled environments. What length of tether between miners should be required? Should the tether be composed of separate sections that clip together to allow any number of miners to be attached? How should

the tether be attached to the miners' belts, or should there be a place other than the miners' belts to attach the tether to the miners? Should the tether be constructed of durable and/or reflective material? Where should the tether be stored on the section? Should it be stored with the additional SCSRs in a readily accessible and identifiable location, or in a separate location?

c. Section 75.383 - Escapeway maps and drills.

The ETS removes existing paragraph (c) from § 75.383. Existing paragraph 75.383(c) allows the operator to use the escapeway practice drills to comply with the requirements of paragraph 75.1502(c). Because MSHA increased the requirements in the evacuation drills in § 75.1502, drills conducted under § 75.383 will no longer satisfy paragraph 75.1502(c). A new paragraph, 75.1502(c)(4), allows the operator to use drills defined in paragraph 75.1502(c) to comply with the requirements of drills specified in § 75.383. This change enhances protection to miners because the ETS expands the content of the drills under paragraph 75.1502(c) to include donning and transferring of self-rescue devices, locating directional lifelines and equivalent devices, and physically traveling to the surface or exits of the bottom of shafts or slopes.

d. Section 75.1502 - Mine emergency evacuation and  
firefighting program of instruction.

The ETS makes a number of non-substantive organizational changes to clarify existing provisions or to accommodate new or moved provisions. The ETS adds paragraph headings and realigns paragraph numbers in § 75.1502 to make it easier to find and understand specific requirements. Existing language in paragraph 75.1502(c) "which shall be held at periods of time so as to ensure that all miners participate in such evacuations at intervals of not more than 90 days" is moved to 75.1502(c)(1). In addition, the ETS moves existing paragraph 75.1502(c)(1) to 75.1502(c)(3), and emphasizes the requirement in existing 75.1502(c)(1) that the mine operator certify which miners have completed the training. This certification includes the names of the miners participating in each drill. Also, this ETS adds "and materials" to the term "firefighting equipment" in existing paragraph 75.1502(a) to 75.1502(a)(1)(vi) clarifying that materials, such as water and rock dust, are also important for fighting fires.

This ETS modifies existing paragraph (a) of § 75.1502 by adding new requirements in the mine emergency evacuation and firefighting program. The new provisions do not reduce

the protection afforded miners because MSHA has enhanced the requirements in the program of instruction to assist the miner in handling mine emergencies.

For organizational purposes, MSHA added eight requirements to paragraph 75.1502(a)(1). Three of these paragraphs specify new requirements. Five of the paragraphs retain existing provisions: (a)(1)(i), (a)(1)(iii), (a)(1)(iv), (a)(1)(v), and (a)(1)(vi).

New paragraph (a)(1)(ii) of § 75.1502 requires operators to develop scenarios for mine emergencies, including fires, explosions, or gas or water inundations, and develop best options for evacuation under each type of emergency. This requirement further emphasizes that operators must include immediate donning of self-rescue devices in these scenarios.

Under new paragraph (a)(1)(vii) operators are required to include instruction in locating and using continuous directional lifelines or the equivalent. The instruction is added to cover the new requirements for lifelines.

New paragraph (a)(1)(viii) of § 75.1502 requires the operator to provide, in the plan, instructions for training in locating and using SCSRs. The operator is required to specify the quantity and types of self-rescue devices to ensure that appropriate training is provided.

These changes are necessary to require training in the proper use of equipment in mine emergencies, because of the additional requirements added to other sections in the ETS.

Existing paragraph 75.1502(a)(1)(vii) is modified to include training in the location and use of continuous directional lifelines or equivalent devices. MSHA includes this additional requirement in the training program to ensure that miners are properly trained to locate and use these additional escape devices. This increases the miners' options for escape.

New paragraph 75.1502(a)(2) is added to require operators to designate persons with the appropriate abilities, training, knowledge, or experience to provide training and conduct § 75.1502-required drills. MSHA experience indicates that effectively trained miners are more likely to retain their skills when they are needed during an emergency. A key component of effective training is the instructor's ability to train and evaluate performance. This is important to ensure that the miner is properly trained on donning and transferring of self-rescue devices.

Some of the existing language in paragraph 75.1502(a) is moved to paragraph 75.1502(a)(3) to require the operator to submit a program of instruction, with any revisions, for

approval to the District Manager of the Coal Mine Safety and Health district in which the mine is located. Before implementing any new or revised approved plan provision, the operator must instruct miners in the changes.

New paragraph 75.1502(c)(2) is added to enhance the mine evacuation drill to require miners to travel the primary or alternate escapeways to the surface or bottom of a shaft or slope. Further, language was added to require that the drill be conducted in a different escapeway than the previously conducted drill. This requirement is added to ensure miners are familiar with all the possible escapeways in the event their primary escape route is impassable. This provision emphasizes that the existing standard means a practice drill. This change ensures miners will engage in a practice drill.

The ETS adds paragraph (c)(2)(i) of § 75.1502 requiring training on directional lifelines or equivalent devices and stored SCSRs. This is based on the new ETS requirements for lifelines and additional stored SCSRs. This training is included in emergency drills to ensure that miners are able to locate and use the lifelines and additional SCSRs.

The provision from paragraph (b)(8) of § 48.8 requiring complete donning procedures of SCSRs is added in

new paragraph (c)(2)(ii) of § 75.1502. Adding this provision into § 75.1502 increases the frequency of the SCSR training from once per year to at least four times per year. A reason for including this training within the mine evacuation drill is to provide a more realistic training environment. This training, when integrated with the other components of the drill, will provide the miner with a complete experience of an emergency situation.

Drills may further provide a more realistic emergency evacuation practice. For example, conducting the drill in smoke or using a realistic mouthpiece that provides the user with the sensation of actually breathing through an SCSR, commonly referred to as "expectations" training, is more realistic than simulation training. MSHA is asking for comments and suggestions on alternative realistic emergency evacuation practices to ensure that miners are prepared to act in an emergency.

This requirement for a more realistic training drill is supported by the research discussed in the PW-SCSR Project Final Report, (Kovac and Kravitz, 1991) evaluating the "3+3" training method. A total of 185 miners and MSHA inspectors were trained by U.S. Bureau of Mines personnel. The training was provided to the miners on the working section, usually a few crosscuts outby the face. Miners

were brought back from the face one at a time for their training. This approach can be used during mine emergency drills to satisfy requirements without disrupting other activities at the mine.

This ETS adds new paragraph (c)(2)(iii) to § 75.1502 to provide hands-on training in transferring from one self-rescue device to an SCSR. MSHA adds this provision to include training to cover new requirements in paragraph 75.1502(c)(2) and § 75.1714-4. Miners must be trained on all types of self-rescue devices in use at the mine. This training must include experience in transferring from one type of self-rescue device to the same type, as well as to all other types in use at the mine, as applicable.

The ETS adds new paragraph (c)(3) to § 75.1502. Existing paragraph 75.1502(c)(1) is moved to new paragraph 75.1502(c)(3) and the language is amended to emphasize the requirement that mine operators certify, by name, all miners who participated in each emergency evacuation drills. This provides a record of training for each miner. MSHA is soliciting comments on whether such a record of training should include additional information, such as a checklist. The checklist could be used to itemize the successful completion of each step of the training, as outlined in the approved program of instruction.



The ETS adds new paragraph (c)(4) to § 75.1502 to allow the operator to use the mine emergency evacuation drills in this section to satisfy the requirement for practice escapeway drills in paragraph 75.383(b) of this part. See discussion under section-by-section discussion on paragraph 75.383(b).

A new paragraph (d) is added to this section requiring the mine operator to submit a revised program of instruction under this part 75. This revised program of instruction shall be submitted to the appropriate District Manager for approval no later than [Insert date 30 days from date of publication in the FEDERAL REGISTER]. Within 2 weeks of plan approval, the operator must train miners in the revised requirements. This provision is consistent with the new provision for a revised training plan in paragraph 48.3(p).

e. Section 75.1714-2 - Self Rescue devices; use and location requirements.

This ETS modifies paragraph (f) of § 75.1714-2 to conform the language to changes in § 75.1714-4. The new provision is that a sign with the word "SELF-RESCUER" or "SELF-RESCUERS" must be conspicuously posted at each storage place and it must be made of reflective material. Direction signs made of a reflective material must also be

posted leading to each storage place.

In addition, this ETS modifies paragraph (g)(2) of § 75.1714-2. A new phrase, "made of a reflective material" has been added in reference to the cache (storage location) signs and direction signs. The paragraph now reads, "The one-hour canister shall be available at all times to all persons when underground in accordance with a plan submitted by the operator of the mine and approved by the District Manager. When the one-hour canister is placed in a cache or caches, a sign made of a reflective material with the word "SELF-RESCUERS" shall be conspicuously posted at each cache, and direction signs made of a reflective material shall be posted leading to each cache."

f. Section 75.1714-4 - Additional Self-Contained Self-Rescuers.

This ETS includes a new § 75.1714-4 which requires the mine operator to provide at least one additional SCSR that will provide protection for a period of one hour or longer to cover the maximum number of persons in the mine. Thus, each miner or person underground will have the self-rescuer device that is traditionally carried with him or her and an additional SCSR device readily accessible. If a filter self rescuer is used in conjunction with an existing SCSR storage plan, a mine operator must comply with the

requirement for an additional SCSR as described under this new 75.1714-4(a). In addition, where persons enter or exit the mine using a mantrip or mobile equipment, additional SCSRs must be available on the mantrip or mobile equipment portal to portal. Moreover, this provision requires the mine operator to submit an outby SCSR storage plan, identifying the location, quantity and type of additional SCSRs in the primary and alternate escapeways in circumstances where the SCSR devices required under the existing standards will not provide sufficient oxygen for all persons to safely evacuate the mine. The outby SCSR storage plan must also show how the storage location in each escapeway was determined. For District Manager approval of the outby storage plan, the District Manager may require the mine operator to demonstrate that the location, quantity, and type of the additional SCSRs provide adequate protection for all persons to safely evacuate the mine.

Section 75.1714-4 also requires the operator to store all SCSRs required under this section in locations that are conspicuous and that are readily accessible by each person in the mine. All SCSR devices required under this section must be stored according to the manufacturer's instructions.

Section 75.1714-4 further requires a sign with the words "SELF-RESCUERS" to be conspicuously posted at each storage location. The sign must be made of reflective material. In addition, direction signs that are made of a reflective material must be posted in each entry leading to each storage location.

This ETS enhances protection because it requires additional SCSRs to cover the maximum number of persons in every underground coal mine. These additional SCSRs in the storage locations will greatly increase the ability of all persons to safely evacuate during a mine emergency or accident.

New paragraph 75.1714-4(a) requires that in addition to the requirements in §§ 75.1714, 75.1714-1, 75.1714-2, and 75.1714-3, the mine operator shall provide at least one additional SCSR to each person who is underground, and which provides protection for a period of one hour or longer, to cover the maximum number of persons in the mine. This is a new requirement to provide one additional SCSR device for each person in the mine. Having at least one additional SCSR device per person will double the amount of oxygen that is available to that person during any accident or emergency evacuation. MSHA's intent is to encourage persons who are not required for a mine emergency response

to evacuate the mine as quickly as possible. The additional SCSR will aid persons who must travel through smoke and toxic gases to safely exit the mine. The additional SCSR will likely facilitate evacuation of the mine by increasing the person's confidence in the availability of oxygen in the smoke-filled mine entries.

The SCSRs that are required under new paragraph 75.1714-4(a) must meet the storage location requirements under new paragraphs 75.1714-4(d) and (e) discussed below.

New paragraph 75.1714-4(b) requires that if a mantrip or mobile equipment is used to enter or exit the mine, additional SCSRs, each of which provides protection for a period of one hour or longer, shall be available from portal to portal on the mantrip or mobile equipment. At many mines, persons use mantrips or mobile equipment such as scoops, ramcars, or pick-up trucks, to enter the mine and travel to and from their working section. A mine accident or emergency that requires evacuation could occur while crews are traveling to or from their working section on mantrips or mobile equipment. If additional SCSRs are not available on the mantrips or the mobile equipment, persons may not be able to evacuate safely during a mine accident or emergency. Requiring that additional SCSRs be available portal to portal to persons who are using the

mantrip or mobile equipment provides the protection of an additional SCSR while on the mantrip or mobile equipment during an accident or emergency.

Mine operators may utilize the additional SCSRs on the mantrip or mobile equipment to comply with paragraph 75.1714-4(a) if the mantrip stays on the section. If the mantrip leaves the section, operators can choose to comply with paragraph 75.1714-4(a) by removing the SCSRs from the mantrip and keeping them on the section. That is, SCSRs on the mantrip can remain on the section if the mantrip leaves the section for other duties. However, at all times any operator and passengers on the mantrip or mobile equipment must have an additional SCSR available. Additionally, if miners traveling on mantrips or mobile equipment are using filter self-rescuers, or SCSRs which provide less than one hour of protection, they must be provided with two SCSRs, each of which provides protection for a period of one hour or longer, on the mantrip or mobile equipment.

New paragraph 75.1714-4(c) requires that when the SCSR devices otherwise required by paragraph 75.1714(a) are not adequate to provide enough oxygen for all persons to safely evacuate the mine under the mine emergency conditions; the mine operator shall provide additional SCSR devices in the primary and alternate escapeways. Under these

circumstances, the mine operator shall submit an outby SCSR storage plan to the appropriate District Manager for approval. The mine operator must also include in the outby SCSR storage plan required by paragraph 75.1714-4(c) the location(s), quantity, and type of additional SCSR devices, each of which provides protection for a period of one hour or longer, that are stored in the primary and alternate escapeways. The outby SCSR storage plan must also show how the storage location in the primary and alternate escapeways was determined. The District Manager may require the mine operator to demonstrate that the location, quantity, and type of the additional SCSRs provide protection to all persons to safely evacuate the mine. The outby SCSR storage plan must also be kept current by the mine operator and made available for inspection by an authorized representative of the Secretary and by the miners' representative.

The outby SCSR storage plan required by new paragraph 75.1714-4(c) gives mine operators flexibility in determining the location, quantity, and type of additional SCSRs stored in the primary and alternate escapeways. The requirements of this paragraph are performance-oriented. It allows mine operators to assess the conditions unique to

their mine and to establish SCSR storage locations based on these conditions.

New paragraph 75.1714-4(c) also allows MSHA to verify, if needed, the appropriateness of the storage locations. If the MSHA District Manager doubts that all persons underground could reach the additional storage locations safely, the District Manager can require the mine operator to demonstrate that the storage location provides adequate protection to all persons to reach the designated storage location in a timely manner and safely evacuate the mine.

The SCSRs that are required under new paragraph 75.1714-4(c) must also meet the storage location requirements under new paragraphs 75.1714-4(d) and (e) discussed below.

To assist mine operators in complying with the requirements of new paragraph 75.1714-4(c), MSHA is providing one possible method that an operator may use in choosing appropriate outby SCSR storage locations. MSHA developed a method for selecting locations based on a 1996-1997 MSHA-NIOSH study (Unpublished document "The Oxygen Cost of a Mine Escape" (Kovac, Kravitz, Rehak, 1997)). The MSHA-NIOSH study demonstrated that it is possible to project, on a mine-by-mine basis, the difficulty of the mine escape and how much oxygen would be required for such



an escape, knowing the body weight and heart rate of the escaping person. Accordingly, the method used by this heart rate study may also be used to determine the sufficient number and appropriate storage locations of additional SCSRs so that persons can safely evacuate the mine. A mine operator who wants to use the heart rate method to determine the number and storage location of additional SCSRs should, however, adhere to the following procedures:

1. Select the worst-case escape scenario (for example, the furthest point of penetration into coal seam and the heaviest person).
2. Have the person perform an escape drill bare-faced with all the person's normal tools and safety equipment (including an SCSR on the person's belt) along the designated escapeway. During this escape drill, the person's heart-rate should be continuously monitored with the person wearing a heart-rate watch.
3. The person's heart-rate should not exceed the lower of  $(0.70) \times (220 \text{ minus the person's age})$  or 135 beats per minute. (135 beats per minute is the average heart-rate for the 95th percentile person - by weight - performing mantest 4 during

MSHA-NIOSH certification tests.) Under the formula, the calculated rate for a 65 year old person—95<sup>th</sup> percentile by age—is 109 beats per minute and the calculated rate for a 20 year old person is 140 beats per minute. Comparing each calculated rate with 135 beats per minute, the lower rate for the 65 year old person is the calculated rate of 109 and the lower rate for the 20 year old person is 135. Thus, during the simulated escape, if a 65 year old person's heart-rate exceeds 109 or a 20 year old person's heart rate exceeds 135, the person should slow down or stop until his heart rate is in an acceptable range.

4. After one hour, the distance should be recorded and marked.
5. The above procedure should be repeated 3 times, and an average distance calculated.
6. The location for the SCSR storage is the average distance recorded minus 15 percent (the amount of work added by using an SCSR). For example, if the distance traveled is 5,000 feet along the escapeway, the SCSR storage should be placed

4,250 feet along the escapeway (5,000 feet - 750 feet = 4,250 feet).

7. If multiple storage locations are required, the above procedure should be repeated until the escape is completed to the surface.
8. In addition to a person's physiological ability to reach the storage location within the rated duration of the SCSR, given the environmental conditions of the mine and the oxygen provided by the SCSR, other factors can come into play. For example, the number of persons accessing a storage location can affect the time it takes to retrieve and don an SCSR from the storage location. The accessibility of the storage location may be affected by its physical configuration.

To summarize, for purposes of the outby SCSR storage plan, an operator may use any reliable method of choosing storage locations including the method mentioned above. MSHA solicits comments on the above suggested method, and other reliable methods, for determining where to locate the additional SCSRs in the mine. In addition, MSHA solicits comments on whether a specification standard would be more appropriate than the performance-oriented approach provided

in this ETS. For example, MSHA is considering a requirement that the additional SCSRs under new paragraph 75.1714-4(c) be stored in all escapeways at intervals of 5,000 feet for mines where the escapeway height is above 48 inches and 2,500 feet for all other mines. MSHA solicits comments on such a specification-oriented standard, including comments on whether the specific 5,000 and 2,500 foot intervals, or some other specific interval, is appropriate.

MSHA solicits comments on the appropriateness of eliminating filter self-rescuers ("FSRs") from all underground bituminous, lignite, and anthracite mines. FSRs were required before SCSRs were available to the mining industry. Some current SCSR storage plans allow the use of FSRs to reach stored SCSRs. Given that FSRs only provide filter protection for carbon monoxide, and due to the fact that FSRs do not produce oxygen, MSHA solicits comments on whether underground coal mines should only require SCSRs.

MSHA also solicits comments on the appropriateness of requiring mine operators to report the total number of SCSRs in use at each underground coal mine, semi-annually, to the MSHA District Manager. Along with the total number of SCSRs, MSHA could require the following information be

reported for each SCSR at each mine: 1) manufacturer, 2) model, 3) date of manufacture, and 4) the serial number. This information would be valuable because manufacturers often lose track of where their SCSRs are in the mining industry. When a mine shuts down, the SCSRs are often sold to another mine. In the past, problems have been discovered with all brands of SCSRs. Sometimes these problems are related to specific production runs that generate unique serial numbers for the SCSRs. Sometimes, the problems affect all the manufactured SCSRs from one manufacturer. Having knowledge of where the SCSRs are located will benefit persons because MSHA can then expeditiously locate the affected SCSRs so that remedial action can be taken.

New paragraph 75.1714-4(d) provides that all SCSR devices required under this section be stored in locations that are conspicuous and that are readily accessible by each person in the mine. In addition, new paragraph 1714-4(d) provides that all SCSR devices required under this section be stored according to manufacturers' instructions. The time used to locate an SCSR that is not conspicuously stored could make the difference between the success or failure of a safe evacuation. In addition, the storage location must be readily accessible so that the additional

SCSRs can be retrieved in a prompt, timely manner. An example of a storage location that is readily accessible is on the working face or in locations where mechanized mining equipment is being installed and removed. Such a location, however, may not be readily accessible to all persons, such as pumpers, outby crews, and examiners. MSHA is, therefore, soliciting comments on storage locations that are readily accessible to such persons.

This new requirement will facilitate the successful use of the additional SCSRs during a mine accident or emergency. Moreover, manufacturers' instructions are required to be included in the approval documents for all SCSRs, which are submitted to MSHA and NIOSH under 42 C.F.R. part 84. The instructions are included with all SCSRs from each manufacturer.

New paragraph 75.1714-4(e) requires that a sign with the words "SELF-RESCUERS" be conspicuously posted at each storage location, be made of reflective material, and direction signs made of a reflective material be posted in each entry leading to each storage location. The requirements are similar to the requirements in existing paragraph 75.1714-2(f) pertaining to the storage of an SCSR device that is required under existing § 75.1714, but that is not carried out of the mine at the end of a person's

shift. MSHA is adding a requirement that the sign be made of reflective material here and under existing paragraphs 75.1714-2(f) and (g) because escape routes are often filled with thick smoke that could obscure any SCSR storage location. Under such circumstances, a sign made of a reflective material will provide greater visibility of the storage locations to persons who need to exit the mine quickly. Moreover, new paragraphs 75.380(d)(7)(vi) and 75.381(c)(5)(vi) require that lifelines be attached to, and marked to show these storage locations.

The requirement that a sign under paragraphs 75.1714-2(f) and (g) be made of reflective material enhances miner protection because escape routes are often filled with thick smoke that could obscure any SCSR storage location and a sign made of a reflective material will provide greater visibility of the storage locations to persons who need to exit the mine quickly.

MSHA solicits comments on the appropriateness of requiring signs to be made of a reflective material and whether there are alternative methods available for making storage locations easy to locate when conditions in the mine might obscure the storage location.

The new requirement that a sign be made of a reflective material enhances miner safety by making SCSR

storage locations easier to locate when a person needs to evacuate the mine quickly and the escape route is filled with thick smoke obscuring the SCSR storage location.

g. Section 75.1714-5 - Map locations of Self-Contained Self-Rescuers.

New § 75.1714-5 requires the mine operator to include the storage location(s) of SCSR devices subject to storage plans on the § 75.383 mine emergency map and on the § 75.1200 mine map. Existing § 75.383 requires escapeway maps to be posted in each working section, and in each area where mechanized mining equipment is being installed or removed, and at a surface location of the mine where miners congregate, such as the mine bulletin board, bathhouse, or waiting room. Existing § 75.1203 requires the mine map under § 75.1200 to be available to miners. Because an escapeway map is posted in an obvious location and because a miner has access to the mine map, requiring the operator to include the storage location of all SCSRs on the escapeway map and mine map helps ensure that persons are aware of the storage location of all SCSRs in the mine. In addition, the § 75.1200 mine map is the basis for all mine rescue attempts.

Finally, MSHA is considering a requirement that the mine operator promptly report to the MSHA District Manager,



in writing, all incidents where any SCSR, required by this section or existing § 75.1714, is used for an accident or emergency and all instances where such SCSR device did not function properly. In addition, when any SCSR device has not functioned properly, the mine operator would retain the device, for at least 90 days, for investigation by MSHA.

MSHA solicits comments on this reporting requirement because, in the past, MSHA did not always learn of problems associated with SCSRs in a timely manner. This requirement would help assure that MSHA is notified of problems in a timely manner and that the affected SCSRs are available for testing and evaluation.

#### V. Executive Order 12866

Executive Order (E.O.) 12866 (58 FR 51735) as amended by E.O. 13258 (Amending Executive Order 12866 on Regulatory Planning and Review (67 FR 9385)) requires that regulatory agencies assess both the costs and benefits of regulations. MSHA has determined that the ETS would not have an annual effect of \$100 million or more on the economy and that, therefore, it is not an economically "significant regulatory action" pursuant to § 3, paragraph (f) of E.O. 12866.

#### A. Population-at-Risk.

Using 2004 data, the ETS applies to the 634 underground coal mine operators employing 33,490 miners and 3,697 contractor workers who work underground in coal mines. Also, using 2004 data, the immediate notification provisions of the ETS apply to the entire mining industry, encompassing all 214,450 miners and 72,739 contract workers who work in the 14,480 U.S. mines.

#### B. Benefits.

To estimate benefits, MSHA focused on three accidents where miners' lives might have been saved if this rule was implemented. These three accidents occurred at the Wilberg Mine in 1984, at the Sago Mine in 2006, and at the Aracoma Alma #1 Mine, also in 2006. In these three accidents, there were, in total, 41 fatalities and one serious injury. MSHA believes that this ETS, if in place at the time of these accidents, could have saved the lives of most of these victims. One of the miners at Sago Mine died in the explosion and would have perished even if the ETS had been in force. In quantitative terms, MSHA estimates that perhaps 70% to 90% of miners in similar accidents in the future could be saved by implementing the ETS, with a mid-range estimate of 80%. Multiplying 40 by 80% provides a mid-range estimate of 32 lives that could be saved. Multiplying 40 by 70% and 90% provides a full-range

estimate of 28 to 36 lives that could be saved by the ETS.

January 1, 1983 is the starting point for the accident records in MSHA's electronic Teradata database. Starting at January 1, 1983 and ending in early February, 2006 is a time span of 23.1 years. Since these three accidents occurred over a period of 23.1 years, MSHA divides 32 lives saved by 23.1 years to obtain a mid-range estimate of 1.39 lives saved per year. A similar calculation provides a full-range estimate of 1.21 to 1.56 lives saved per year. Using the same method, MSHA also calculates a mid-range estimate of 0.035 serious injuries prevented per year and a full-range estimate of 0.030 to 0.039 serious injuries prevented per year. The actual number of miners' lives saved could be much larger.

### C. Compliance Costs.

The immediate notification provisions of the ETS, which apply to all mines, are definitional and clarify existing requirements. As such, MSHA expects that they will impose no additional costs on the mining industry.

MSHA estimates that the ETS will result in total yearly costs for underground mine operators and contractors of approximately \$18.9 million, which reflect first-year costs of about \$54.7 million. Of the yearly costs, \$7.9 million will be associated with training requirements; \$0.5

million will be associated with lifeline requirements; and \$10.5 million will be associated with additional SCSR devices. Disaggregated by mine size, yearly costs will be \$1.2 million (or about \$5,100 per mine) for mine operators with fewer than 20 employees; \$15.6 million (or about \$40,100 per mine) for mine operators with 20-500 employees; and \$2.1 million (or about \$256,700 per mine) for mine operators with more than 500 employees.

## VI. Feasibility

MSHA has concluded that the requirements of the ETS are technologically and economically feasible.

The ETS is not be a technology-forcing standard and does not involve activities on the frontiers of scientific knowledge. Many of the requirements of the ETS are based on MSHA's current regulations.

The yearly compliance costs of the ETS (of \$18.9 million) are equal to 0.2 percent of all revenues (of \$11.1 billion in 2004) for all underground coal mines. Insofar as the total compliance costs are well below one percent of the estimated revenues for all underground coal mines, MSHA concludes that the ETS is economically feasible for these mines.

As noted above, the immediate notification provisions of the ETS, which apply to the entire mining industry, will

impose no additional costs. MSHA therefore concludes that these provisions are economically feasible for the mining industry.

## VII. Regulatory Flexibility Act and Small Business Regulatory Enforcement Fairness Act (SBREFA)

Pursuant to the Regulatory Flexibility Act (RFA) of 1980 as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA), MSHA has analyzed the impact of the ETS on small businesses. Further, MSHA has made a determination with respect to whether or not the Agency can certify that the ETS will not have a significant economic impact on a substantial number of small entities that are covered by this rulemaking. Under the SBREFA amendments to the RFA, MSHA must include in the rule a factual basis for this certification. If a rule has a significant economic impact on a substantial number of small entities, MSHA must develop a regulatory flexibility analysis.

### A. Definition of a Small Mine.

Under the RFA, in analyzing the impact of a rule on small entities, MSHA must use the Small Business Administration (SBA) definition for a small entity or, after consultation with the SBA Office of Advocacy, establish an alternative definition for the mining industry

by publishing that definition in the Federal Register for notice and comment. MSHA has not taken such an action and hence is required to use the SBA definition. The SBA defines a small entity in the mining industry as an establishment with 500 or fewer employees.

MSHA has also looked at the impacts of Agency rules on a subset of mines with 500 or fewer employees--those with fewer than 20 employees, which MSHA and the mining community have traditionally referred to as "small mines." These small mines differ from larger mines not only in the number of employees, but also in economies of scale in material produced, in the type and amount of production equipment, and in supply inventory. Therefore, their costs of complying with MSHA's rules and the impact of the Agency's rules on them will also tend to be different. It is for this reason that "small mines," as traditionally defined by MSHA as those employing fewer than 20 workers, are of special concern to MSHA.

This analysis complies with the legal requirements of the RFA for an analysis of the impacts on "small entities" while continuing MSHA's traditional definition of "small mines." The Agency concludes that it can certify that the ETS will not have a significant economic impact on a substantial number of small entities that are covered by

this rulemaking. MSHA has determined that this is the case both for mines affected by this rulemaking with fewer than 20 employees and for mines affected by this rulemaking with 500 or fewer employees.

B. Factual Basis for Certification.

MSHA's analysis of impacts on "small entities" begins with a "screening" analysis. The screening compares the estimated compliance costs of a rule for small entities in the sector affected by the rule to the estimated revenues for the affected sector. When estimated compliance costs or savings are less than one percent of the estimated revenues, the Agency believes it is generally appropriate to conclude that there is no significant economic impact on a substantial number of small entities. When estimated compliance costs or savings exceed one percent of revenues, it tends to indicate that further analysis may be warranted.

Metal/nonmetal and surface coal mines are covered in the ETS only by the immediate notification provisions. Since these provisions define and clarify existing provisions, they do not impose any costs on mine operators and contractors. MSHA therefore concludes that the ETS will not have a significant economic impact on a substantial number of small entities in these mine sectors.

For underground coal mines, estimated 2004 production was 10,375,660 tons for mines that had fewer than 20 employees and 312,531,849 tons for mines that had 500 or fewer employees. Using the 2004 price of underground coal of \$30.36 per ton, the 2004 underground coal revenues are estimated to be approximately \$315 million for mines employing fewer than 20 employees and \$9.5 billion for mines employing 500 or fewer employees. Thus, the cost of the rule for mines that have fewer than 20 employees is 0.4 percent (\$1.2 million/\$315 million), while the cost of the rule for mines that have 500 or fewer employees is 0.2 percent (\$ 0.017 billion/\$9.5 billion). Using either MSHA's traditional definition of a small mine (one having fewer than 20 employees) or SBA's definition of a small mine (one having 500 or fewer employees), compliance costs of the ETS for underground coal mines will be substantially less than 1 percent of their estimated revenues.

#### VIII. Paperwork Reduction Act of 1995

##### A. Summary.

This emergency rulemaking contains information collection requirements that MSHA estimates will result in 17,547 new burden hours and approximately \$533,601 related burden costs to mine operators and contractors in the first year that the rule is in effect. In the second year that



the rule is in effect, and for every year thereafter, MSHA estimates that mine operators and contractors will incur 9,226 new burden hours and approximately \$525,739 related burden costs. The burden is different in the first year because some information collection requirements occur only in the first year that the rule is in effect; while different burdens occur either every year beginning in the first year, or every year beginning in the second year that the rule is in effect.

This ETS contains information collection requirements in the following sections: § 48.3 - Training plans; time of submission; where filed; information required; time for approval; method for disapproval; commencement of training; approval of instructors; § 50.10 - Immediate notification; § 75.1502 - Mine emergency evacuation and firefighting program of instruction; § 75.1714-3 - Self-rescue devices; inspection, testing, maintenance, repair and recordkeeping; § 75.1714-4 - Additional self-contained self-rescuers; and § 75.1714-5 - Map locations of self-contained self-rescuers to be codified in 30 CFR. Although the new requirement in § 50.10 included in this emergency rulemaking creates no additional paperwork burden, MSHA is listing the provision here because it continues to require a collection of information. The ETS adds to the information collected

under existing OMB information collections OMB 1219-0007, OMB 1219-0009, OMB 1219-0044, OMB 1219-0054, and OMB 1219-0073.

Although paragraph 75.1714-3(e) is an existing provision and is not changed by this emergency rulemaking, MSHA is including it in the burden estimates above because the use of additional SCSR devices mandated by this ETS will increase the burden associated with inspection and recordkeeping requirements contained in this existing paragraph.

For a detailed explanation of how the burden hours and related costs were determined, see Chapter VII of the Regulatory Economic Analysis (REA) associated with this rulemaking. The REA is located on MSHA's website at <http://www.msha.gov/REGSINFO.HTM>. A print copy of the REA can be obtained from the Office of Standards, Regulations, and Variances at MSHA.

#### B. Details.

The information collection package has been submitted to the Office of Management and Budget (OMB) for review under 44 U.S.C. § 3504, paragraph (h) of the Paperwork Reduction Act of 1995, as amended. A copy of the information collection package can be obtained from the

Department of Labor by electronic mail request to [king.darrin@dol.gov](mailto:king.darrin@dol.gov) or by phone request to (202) 693-4129.

Comments on the provisions in the information collection requirements should be sent to both the Office of Information and Regulatory Affairs of OMB and to MSHA. Comments sent to OMB should be sent to the Attention of the Desk Officer for the Mine Safety and Health Administration. Comments sent to MSHA should be sent to the Office of Standards, Regulations, and Variances. Addresses for both offices can be found in the Addresses section of this preamble. Respondents are not required to respond to any collection of information unless it displays a current valid OMB control number. MSHA will publish a notice in the Federal Register announcing when OMB has approved the new information collection requirements.

#### IX. Other Regulatory Considerations

##### A. The Unfunded Mandates Reform Act Of 1995.

This ETS does not include any Federal mandate that may result in increased expenditures by State, local, or tribal governments; nor will it increase private sector expenditures by more than \$100 million annually; nor will it significantly or uniquely affect small governments. Accordingly, the Unfunded Mandates Reform Act of 1995

(2 USC 1501 *et seq.*) requires no further agency action or analysis.

B. The Treasury and General Government Appropriations Act of 1999: Assessment of Federal Regulations and Policies on Families.

This ETS will have no affect on family well-being or stability, marital commitment, parental rights or authority, or income or poverty of families and children. Accordingly, Section 654 of the Treasury and General Government Appropriations Act of 1999 (5 USC 601 note) requires no further Agency action, analysis, or assessment.

C. Executive Order 12630: Government Actions and Interference with Constitutionally Protected Property Rights.

This ETS does not implement a policy with takings implications. Accordingly, E.O. 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights, requires no further Agency action or analysis.

D. Executive Order 12988: Civil Justice Reform.

This ETS was written to provide a clear legal standard for affected conduct and was carefully reviewed to eliminate drafting errors and ambiguities, so as to minimize litigation and undue burden on the Federal court

system. Accordingly, this ETS will meet the applicable standards provided in Section 3 of E.O. 12988, Civil Justice Reform.

E. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks.

This ETS will have no adverse impact on children. Accordingly, E.O. 13045, Protection of Children from Environmental Health Risks and Safety Risks, as amended by E.O. 13229 and 13296, requires no further Agency action or analysis.

F. Executive Order 13132: Federalism.

This ETS does not have "federalism implications" because it will not "have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government." Accordingly, E.O. 13132, Federalism, requires no further Agency action or analysis.

G. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments.

This ETS does not have "tribal implications" because it will not "have substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and Indian tribes, or on the distribution of

power and responsibilities between the Federal government and Indian tribes." Accordingly, E.O. 13175, Consultation and Coordination with Indian Tribal Governments, requires no further Agency action or analysis.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use.

This ETS has been reviewed for its impact on the supply, distribution, and use of energy because it applies to the underground mining sector. Insofar as this ETS will result in yearly costs of approximately \$18.9 million to the underground coal mining industry, relative to annual revenues of \$11.1 billion in 2004, it is not a "significant energy action" because it is not "likely to have a significant adverse effect on the supply, distribution, or use of energy... (including a shortfall in supply, price increases, and increased use of foreign supplies)."

Accordingly, E.O. 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use, requires no further Agency action or analysis.

I. Executive Order 13272: Proper Consideration of Small Entities in Agency Rulemaking.

This ETS has been thoroughly reviewed to assess and take appropriate account of its potential impact on small

businesses, small governmental jurisdictions, and small organizations. MSHA has determined and certified that this ETS does not have a significant economic impact on a substantial number of small entities. Accordingly, E.O. 13272, Proper Consideration of Small Entities in Agency Rulemaking, requires no further Agency action or analysis.

#### X. Emergency Temporary Standard - Regulatory Text

##### List of Subjects

30 CFR Part 48

Education

Mine safety and health

Reporting and recordkeeping requirements

30 CFR Part 50

Investigations

Mine safety and health

Reporting and recordkeeping requirements

30 CFR Part 75

Communications equipment

Electric power

Emergency medical services

Explosives

Fire prevention

Mine safety and health

Reporting and recordkeeping requirements Signed at

Arlington, Virginia, this \_\_\_\_\_ day of \_\_\_\_\_, 2006.

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David G. Dye

Acting Assistant Secretary of Labor

for Mine Safety and Health

Chapter I of Title 30, parts 48, 50, and 75 of the  
Code of Federal Regulations are amended as follows:

PART 48—TRAINING AND RETRAINING OF MINERS

1. The authority citation for part 48 continues to read as follows:

Authority: 30 U.S.C. 811, 825.

2. Amend § 48.3 by revising paragraph (a) introductory text and by adding paragraph (p) to read as follows:

§ 48.3 Training plans; time of submission; where filed; information required; time for approval; method for disapproval; commencement of training; approval of instructors.

(a) Except as provided in paragraphs (o) and (p) of this section, each operator of an underground mine shall have an MSHA approved plan containing programs for training new miners, training experienced miners, training miners for



new tasks, annual refresher training, and hazard training for miners as follows:

\* \* \* \* \*

(p) Each underground coal operator, who is required to submit a revised program of instruction for paragraph (a) of § 75.1502, shall also submit a revised training plan under this part 48. This revised plan shall be submitted to the appropriate District Manager for approval no later than [Insert date 30 days from date of publication in the FEDERAL REGISTER]. Within 2 weeks of plan approval the operator shall train in accordance with the revised training plan.

3. Amend § 48.5 by revising paragraphs (b)(2) and (b)(5) and by adding paragraph (e) to read as follows:

§ 48.5 Training of new miners; minimum courses of instruction; hours of instruction.

\* \* \* \* \*

(b) \* \* \*

(2) Self-rescue and respiratory devices. The course shall be given before a new miner goes underground and shall include instruction and demonstration in the use, care, and maintenance of self-rescue and respiratory devices used at the mine. This training shall include:

(i) For the use of self-contained self-rescue (SCSR) devices: Hands-on training in the complete donning of all types of SCSRs used at the mine, which includes assuming a donning position, opening the device, activating the device, inserting the mouthpiece or simulating this task while explaining proper insertion of the mouthpiece, and putting on the nose clip; and

(ii) Hands-on training in transferring from one self-rescue device to an SCSR.

\* \* \* \* \*

(5) Mine map; escapeways; emergency evacuation; barricading. The program of instruction for mine emergency evacuation plans and firefighting approved by the District Manager under 30 CFR 75.1502(a) or the escape and evacuation plan under 30 CFR 57.11053, as applicable, shall be used for this course. The course shall include a review of the mine map; the escapeway system; the escape, firefighting, and emergency evacuation plans in effect at the mine; and the location of abandoned areas. Also included shall be an introduction to the methods of barricading and the locations of the barricading materials, where applicable.

\* \* \* \* \*

(e) Coal miners receiving training under this section shall participate in the next drill as required in 30 CFR 75.383(b) or 30 CFR 75.1502(c), as applicable.

4. Amend § 48.6 by revising paragraphs (b)(5) and (b)(12) to read as follows and by adding paragraph (f).

§ 48.6 Experienced miner training.

\* \* \* \* \*

(b) \* \* \*

(5) Mine map; escapeways; emergency evacuation; barricading. The program of instruction for mine emergency evacuation and firefighting approved by the District Manager under 30 CFR 75.1502(a) or the escape and evacuation plan under 30 CFR 57.11053, as applicable, shall be used for this course. The course shall include a review of the mine map; the escapeway system; the escape, firefighting, and emergency evacuation plans in effect at the mine; and the location of abandoned areas; and, where applicable, methods of barricading and the locations of barricading materials.

\* \* \* \* \*

(12) Self-rescue and respiratory devices. The course shall be given before the miner goes underground and shall include instruction and demonstration in the use, care, and

maintenance of self-rescue and respiratory devices used at the mine. This training shall include:

(i) For the use of self-contained self-rescue (SCSR) devices: Hands-on training in the complete donning of all types of SCSRs used at the mine, which includes assuming a donning position, opening the device, activating the device, inserting the mouthpiece or simulating this task while explaining proper insertion of the mouthpiece, and putting on the nose clip; and

(ii) Hands-on training in transferring from one self-rescue device to an SCSR.

\* \* \* \* \*

(f) Coal miners receiving training under this section shall participate in the next drill as required in paragraphs 75.383(b) or 75.1502(c) of this chapter, as applicable.

5. Amend § 48.8 by revising paragraph (b)(8) to read as follows.

§ 48.8 Annual refresher training of miners; minimum courses of instruction; hours of instruction.

\* \* \* \* \*

(b) \* \* \*

(8) Self-rescue and respiratory devices. For underground coal miners subject to § 75.1502, the training required by paragraphs (i) and (ii) of this section are satisfied by

meeting the requirements of § 75.1502. The course shall include instruction and demonstration in the use, care, and maintenance of self-rescue and respiratory devices used at the mine. This training shall include:

(i) For the use of self-contained self-rescue (SCSR) devices: Hands-on training in the complete donning of all types of SCSRs used at the mine, which includes assuming a donning position, opening the device, activating the device, inserting the mouthpiece or simulating this task while explaining proper insertion of the mouthpiece, and putting on the nose clip; and

(ii) Hands-on training in transferring from one self-rescue device to an SCSR.

\* \* \* \* \*

6. Amend § 48.11 by revising paragraph (a)(4) to read as follows.

§ 48.11 Hazard training.

(a) \* \* \*

(4) Use of self-rescue and respiratory devices, including:

(i) Hands-on training in the complete donning of all types of SCSRs used at the mine, which includes assuming a donning position, opening the device, activating the device, inserting the mouthpiece or simulating this task

while explaining proper insertion of the mouthpiece, and putting on the nose clip; and

(ii) Hands-on training in transferring from one self-rescue device to an SCSR; and

\* \* \* \* \*

PART 50 - NOTIFICATION, INVESTIGATION, REPORTS AND RECORDS  
OF ACCIDENTS, INJURIES, ILLNESSES, EMPLOYMENT, AND COAL  
PRODUCTION IN MINES

7. Revise the authority citation for Part 50 to read as follows:

Authority: 29 U.S.C. 557(a); 30 U.S.C. 951, 957, 961.

8. Revise § 50.10 to read as follows:

§ 50.10 Immediate notification.

If an accident occurs, an operator shall immediately contact the MSHA District Office having jurisdiction over its mine. If an operator cannot contact the appropriate MSHA District Office, it shall immediately contact the MSHA Headquarters Office in Arlington, Virginia by telephone, at (800) 746-1553. The operator shall contact MSHA as described at once without delay and within 15 minutes. If communications are lost because of an emergency or other unexpected event, the operator shall notify MSHA at once without delay and within 15 minutes of having access to a telephone or other means of communication.

PART 75-MANDATORY SAFETY STANDARDS--UNDERGROUND COAL MINES

9. The authority citation for part 75 continues to read as follows:

Authority: 30 U.S.C 811.

§ 75.350 [Amended].

10. Remove paragraph (b)(7) in § 75.350.

11. Amend § 75.380 by adding paragraph (d)(7) to read as follows.

§ 75.380 Escapeways; bituminous and lignite mines.

\* \* \* \* \*

(d) \* \* \*

(7) Provided with a continuous directional lifeline or equivalent device that shall be:

(i) Installed and maintained throughout the entire length of each escapeway as defined in paragraph (b)(1) of this section.

(ii) Made of durable material.

(iii) Marked with a reflective material every 25 feet.

(iv) Located in such a manner for miners to use effectively to escape.

(v) Equipped with directional indicators, signifying the route of escape, placed at intervals not exceeding 100 feet.

(vi) Securely attached to and marked to show the location of any SCSR storage locations in the escapeways.

\* \* \* \* \*

§ 75.380 [Amended] .

12. Remove paragraph (n) from § 75.380.

13. Amend § 75.381 by adding paragraph (c)(5) to read as follows:

§ 75.381 Escapeways; anthracite mines.

\* \* \* \* \*

(c) \* \* \*

(5) Provided with a continuous directional lifeline or equivalent device that shall be -

(i) Installed and maintained throughout the entire length of each escapeway as defined in paragraph (b) of this section;

(ii) Made of durable material;

(iii) Marked with a reflective material every 25 feet;

(iv) Located in such a manner for miners to use effectively to escape;

(v) Equipped with directional indicators, signifying the route of escape, placed at intervals not exceeding 100 feet; and

(vi) Securely attached to and marked to show the location of any SCSR storage locations in the escapeways.



\* \* \* \* \*

§ 75.383 [Amended].

14. Remove paragraph (c) from § 75.383.

15. Amend § 75.1502 by revising paragraphs (a) and (c) and by adding paragraph (d) to read as follows.

§ 75.1502 Mine emergency evacuation and firefighting program of instruction.

(a) Approved program of instruction. Each operator of an underground coal mine shall adopt and follow a mine emergency evacuation and firefighting program that instructs all miners in the proper evacuation procedures they must follow if a mine emergency occurs.

(1) The approved program shall include a specific plan designed to instruct miners on all shifts on the following:

(i) Procedures for evacuating the mine for mine emergencies that present an imminent danger to miners due to fire, explosion, or gas or water inundation.

(ii) Scenarios of the various mine emergencies (fires, explosions, or gas or water inundations) and the best options for evacuation under each type of emergency. These options shall include conditions in the mine that will require immediate donning of self-rescue devices.

(iii) Procedures for evacuating all miners not required for a mine emergency response.

(iv) Procedures for the rapid assembly and transportation of necessary miners, fire suppression equipment, and rescue apparatus to the scene of the mine emergency.

(v) Operation of the fire suppression equipment available in the mine.

(vi) Location and use of firefighting equipment and materials.

(vii) Location of escapeways, exits, and routes of travel to the surface, including the location and use of continuous directional lifelines or equivalent devices.

(viii) Locations, quantity, types, and use of stored SCSRs, if applicable.

(2) The mine emergency evacuation instruction and drills shall be conducted by a person who is designated by the mine operator and who has the ability, training, knowledge, or experience to provide training to miners in his or her area of expertise. Persons conducting donning and transferring training shall be able to effectively train and evaluate whether miners can successfully don the SCSR and transfer to additional SCSR devices.

(3) The operator shall submit this program of instruction, and any revisions, for approval to the District Manager of the Coal Mine Safety and Health district in which the mine

is located. Before implementing any new or revised approved provision, the operator shall instruct miners in the changes.

\* \* \* \* \*

(c) Mine emergency evacuation drills. Each operator of an underground coal mine shall require all miners to participate in mine emergency evacuation drills.

(1) Mine emergency evacuation drills shall be held at periods of time so as to ensure that all miners participate in such evacuations at intervals of not more than 90 days.

(2) For purposes of this paragraph (c), a mine emergency evacuation drill means that the miner shall travel the primary or alternate escapeway, from the working section or the miner's work station, to the surface or the exits at the bottom of the shaft or slope. An evacuation drill shall not be conducted in the same escapeway as the immediately preceding drill. At a minimum, this drill shall include:

(i) Physically locating continuous directional lifelines or equivalent devices and stored SCSRs;

(ii) Hands-on training in the complete donning of all types of SCSRs used at the mine, which includes assuming a donning position, opening the device, activating the device, inserting the mouthpiece or simulating this task

while explaining proper insertion of the mouthpiece, and putting on the nose clip; and

(iii) Hands-on training in transferring from one self-rescue device to an SCSR.

(3) The operator shall certify by signature and date that the mine emergency evacuation drills were held in accordance with the requirements of this section. This certification shall include the names of the miners participating in each drill. Certifications shall be kept at the mine for one year and made available on request to an authorized representative of the Secretary, and to the representative of the miners.

(4) These mine emergency evacuation drills may be used to satisfy the evacuation specifications of the drills required by paragraph (b) of § 75.383 of this part.

(d) Each underground coal operator shall submit for approval a revised program of instruction to the appropriate District Manager no later than [Insert date 30 days from date of publication in the FEDERAL REGISTER]. Within 2 weeks of program approval the operator shall train in accordance with the revised program.

16. Amend § 75.1714-2 by revising paragraphs (f) and (g) (2) to read as follows:

§ 75.1714-2 Self-rescuer devices; use and location requirements.

\* \* \* \* \*

(f) A sign with the word "SELF-RESCUER" or "SELF-RESCUERS" shall be conspicuously posted at each storage location and shall be made of reflective material. Direction signs made of a reflective material shall be posted leading to each storage place.

(g) \* \* \*

(2) The 1-hour canister shall be available at all times to all persons when underground in accordance with a plan submitted by the mine operator and approved by the District Manager. When the one-hour canister is placed in a cache or caches, a sign made of a reflective material with the word "SELF-RESCUERS" shall be conspicuously posted at each cache, and direction signs made of a reflective material shall be posted leading to each cache.

17. Add § 75.1714-4 to read as follows:

§ 75.1714-4 Additional Self-Contained Self-Rescuers.

(a) In addition to the requirements in §§ 75.1714, 75.1714-1, 75.1714-2, and 75.1714-3, the mine operator shall provide for each person who is underground at least one additional SCSR device, which provides protection for a

period of one hour or longer, to cover all persons in the mine.

(b) If a mantrip or mobile equipment is used to enter or exit the mine, additional SCSR devices, each of which provides protection for a period of one hour or longer, shall be available for all persons who use such transportation from portal to portal.

(c) When the SCSR devices otherwise required by paragraph (a) of § 75.1714 are not adequate to provide enough oxygen for all persons to safely evacuate the mine under mine emergency conditions, the mine operator shall provide additional SCSR devices in the primary and alternate escapeways. Under these circumstances, the mine operator shall submit an outby SCSR storage plan to the appropriate District Manager for approval. The mine operator shall include in the outby SCSR storage plan that is required by this paragraph, the location, quantity, and type of additional SCSR devices, each of which provides protection for a period of one hour or longer, that are stored in the primary and alternate escapeways. The outby SCSR storage plan shall also show how the storage location(s) in the primary and alternate escapeways was determined. The District Manager may require the mine operator to demonstrate that the location, quantity, and type of the

additional SCSRs provide protection to all persons to safely evacuate the mine. The outby SCSR storage plan shall be kept current by the mine operator and made available for inspection by an authorized representative of the Secretary and by the miners' representative.

(d) All SCSR devices required under this section shall be stored in locations that are conspicuous and that are readily accessible by each person in the mine. In addition, all SCSR devices required under this section shall be stored according to manufacturers' instructions.

(e) A sign made of reflective material with the words "SELF-RESCUERS" shall be conspicuously posted at each storage location and direction signs made of a reflective material shall be posted leading to each storage location.

18. Add § 75.1714-5 to read as follows.

§ 75.1714-5 - Map locations of Self-Contained Self-Rescuers.

The mine operator shall include the storage location(s) of all SCSR devices subject to storage plans as required by § 75.1714-2 and paragraph 75.1714-4(c) on the posted § 75.383 mine escapeway map and on the § 75.1200 mine map.